

College of Computer Science

CREDIT HOURS: 138

University Requirement:	12
College Requirement:	28
Program Core:	92
Program Electives:	06

MAJOR TRACKS:

Intelligent Systems
Software Engineering
Network Security

Bachelor in Computer Sciences

Department of Computer Science



Overview about the proposed program

General Information

University	King Khalid university		
College	College of Computer Science	Department	Computer Science
Synopsis about the college	<p>The College of Computer Science came into existence by a Royal decree and started in 1421-1422 AH Based on the Council of Higher Education No. 15/8/1420 dated 01/02/1420 AH. And Approval of Royal Decree No. 7/4096/ب dated 14/3/1420 AH. At the beginning of the year 1426/1427 decision Council of Higher Education issued with No. 22/37/1426 and date of approval 30/4/1426 AH the opening departments of computer networks and communications, and computer engineering. And Approval of Royal Decree No.4096/ب م dated 5/8/1426 AH.</p> <p>The College of Computer Science started functioning at the beginning of the academic year 2000/2001 AD, after the study plans were adopted by the University Council, and two majors were implemented, namely Computer Science and Information Systems. Currently, The College offers four different Bachelor degree programs such as Computer Sciences, Information Systems, Computer Engineering and computer Networks and Communication Engineering</p>		
College Vision	College of Computer Sciences Vision is "The accomplishment of global pioneering and to be distinguished in the advancement of education, research and society development in the fields of computer science and engineering".		
College Mission	College of Computer Sciences mission is to "Provide high-quality education and the needed requirements for research and innovation to produce graduates with high professional competence in the field of computer science and engineering and technical participation in community service".		
College Goals	1. Developing strategies to improve curricula in the light of technical and professional development.		

	<p>2. Creating opportunities for students to gain and discover information that is applicable in the field of scientific research on theoretical and practical levels.</p> <p>3. Reaching an excellent level of knowledge and scientific research to serve all segments of society.</p> <p>4. Developing academic levels through linking curricula with technology</p> <p>5. Serving all segments of the community technically and knowledgeable, in space and time, through modern methods of education such as distance learning and e-learning.</p> <p>6. Expanding opportunities and education methods to develop skills and build knowledge in order to solve many technical problems.</p> <p>7. Stimulating the ethics of the profession and the self-growth of students and college members through information technology.</p>
College Departments	<p>Computer Science Computer Engineering Information system Computer Networking and Communication Engineering</p>
Program Vision	<p>Department of Computer Science envisages to be a pioneer in providing world class education and research in the frontier areas of computer science and its applications.</p>
Program Mission	<p>To provide high quality education and scientific research in computer science by upholding human values, offering constructive community services and employment opportunities</p>
Program Educational Objectives	<p>The Computer Science Program at King Khalid University is designed to prepare Computer Science graduates, who will</p> <ol style="list-style-type: none"> 1. be employed in a professional computing field or continue research in graduated program. 2. demonstrate sense of ethical and social responsibilities while leading, designing and developing computer projects 3. contribute effectively to the economic development of the Saudi society through the adaptation of new computing technologies for business and research
The degree Awarded by the program	<p>Bachelor in Computer Sciences</p>
Admission Conditions at the Bachelor stage	<p>An applicant for admission to a Bachelor in Computer Sciences program at College of Computer Science, King Khalid University must satisfy the following minimum requirements:</p> <ul style="list-style-type: none"> • The applicant should have a Saudi Arabian Nationality or a Saudi Arabian mother or who gets exception from the university internal policies or national interests. • The applicant should have his/her high school certificate or an equivalent certificate from inside or outside Saudi Arabia.

	<ul style="list-style-type: none"> • The applicant should obtain the secondary school certificate, or its equivalent, in a period of less than five years prior to his/her application. However the University Council may waive this condition if the applicant has a persuasive explanation. • The applicant should have a certificate of good conduct. • The applicant should clear the two exams for admission in any university degree program. One exam tests the aptitude and other for the assessment of subject competency. It is administered by the National Assessment Center for Higher Education in a large number of centers across the Kingdom. <ol style="list-style-type: none"> a. The aptitude test (Qiyas) determines the general capabilities of students in Mathematics and Linguistics. b. The comprehensive or subject test (Tahsili) evaluates the student's knowledge and ability in English and Sciences studied throughout the High School curriculum • After the completion of Preparatory Year course (of 1 year) the program demands a prerequisite GPA of 3 (Out of 5) to continue the further studies. • The applicant must be medically fit. • The applicant must obtain the approval of his/her employer, if he/she is an employee in any government or private institution. • The applicant must satisfy any other requirements specified by the University Council at the time of application • The applicant should not have been a former student of King Khalid University, or have been dropped out, dismissed, or expelled from King Khalid University or another university. • The applicant must submit the required documents to the University within a specified period or else his admission will be cancelled.
Teaching Language	English
Program Title and Code	Bachelor in Computer Sciences - 010201
Awards	Bachelor in Computer Sciences
Exit points from the program	<ul style="list-style-type: none"> • System Administrator, • Software Developer, • Network Administrator • Software Analyst

3.2 Courses Structure

Sub. Code	Subject	TH	L	Credit	Pre-requisite
Semester 1					
111-CCS-3	Introduction to Computing	2	1	3	
111-ICI-2	The Entrance to the Islamic Culture 1	2		2	
108-MATH-3	Calculus 1	3		3	
201-ARAB-2	Arabic Language Skills	2		2	
011-ENG-6	Intensive English Program 1	6		6	
	Sub Total Credit	15	1	16	
Semester 2					
121-CCS-3	Introduction to programming	2	1	3	111-CCS-3
112-ICI-2	Islamic Culture 2	2		2	111-ICI-2
109-MATH-3	Calculus 2	3		3	108-MATH-3
202-ARAB-2	Arabic Editing	2		2	
012-ENG-6	Intensive English Program 2	6		6	011-ENG-6
	Sub Total Credit	15	1	16	
Semester 3					
211-PHY-4	Principles of Physics	3	1	4	
113-ICI-2	Islamic Culture (3)	2		2	112-ICI-2
113-MATH-3	Linear Algebra	3		3	
222-CCS-4	Object Oriented Programming	3	1	4	121-CCS-3
251-CCS-3	Computer Organization and Architecture	3		3	
139-BUS-2	Communication Skills	2		2	
	Sub Total Credit	16	2	18	
Semester 4					
109-CHEM-3	Chemistry	2	1	3	
214-ICI-2	Islamic Culture (4)	2		2	113-ICI-2
339-MATH-3	Probability and Statistics	3		3	109-MATH-3
231-CCS-4	Data Structures & Algorithms	3	1	4	222-CCS-4
231-CIS-3	Introduction to Databases	2	1	3	
223-CCS-3	Advanced Object Oriented Programming	2	1	3	222-CCS-4
	Sub Total Credit	14	4	18	
Semester 5					
133-CCE-3	Discrete Structures	3	-	3	
341-CCS-3	Principles of Software Engineering	2	1	3	222-CCS-4
381-CCS-3	Operating Systems	2	1	3	231-CCS-3
352-CCS-3	Microprocessor and Assembly Language	2	1	3	251-CCS-3

371-CCS-3	Data Communication and Computer Networks	2	1	3	
312-CCS-3	Image Processing	2	1	3	339-MATH-3
	Sub Total Credit	13	5	18	
Semester 6					
361-CCS-3	Artificial Intelligence	2	1	3	231-CCS-3
324-CCS-3	Programming with Python	2	1	3	222-CCS-4
453-CIS-3	Computer and Network Security	2	1	3	371-CCS-3
373-CCS-3	Web Engineering	2	1	3	222-CCS-4
313-CCS-3	Game Development	2	1	3	222-CCS-4
314-CCS-3	Operations Research	2	1	3	231-CCS-3
	Sub Total Credit	12	6	18	
491-CCS-0	Summer Training	0		0	64 credit hours
Semester 7					
462-CCS-3	Introduction to Machine Learning	2	1	3	361-CCS-3
425-CCS-2	Programming Paradigms	2	0	2	324-CCS-3
	Common Elective 1- (College level)	2	1	3	
	Elective -1	2	1	3	
492-CCS-3	Project -1	3		3	491-CCS-3
432-CCS-3	Design and Analysis of Algorithms	2	1	3	231-CCS-3
	Sub Total Credit	13	4	17	
Semester 8					
414-CCS-3	Theory of Compiler	2	1	3	425-CCS-2
482-CCS-3	Parallel and Distributed Computing	2	1	3	381-CCS-3
483-CIS-2	Computing Ethics	2		2	
	Common Elective 2 - (College level)	3		3	
	Elective - 2	2	1	3	
493-CCS-3	Project 2	2	1	3	492-CCS-3
	Sub Total Credit	13	4	17	
	Total			138	

Elective Subjects

Track	Code	Course Title	Credit hours	Pre-requisite
Intelligent Systems	463-CCS-3	Neural Network and fuzzy logic	3	361-CCS-3
	464-CCS-3	Knowledge Engineering and Expert Systems	3	361-CCS-3
	373-CIS-3	Data Mining	3	361-CCS-3
Software Engineering	442-CCS-3	Software Testing and Quality Assurance	3	341-CCS-3
	443-CCS-3	Principles of Software Design and Architecture	3	341-CCS-3
	444-CCS-3	Software Project Management	3	341-CCS-3
Network security	456-CIS-3	Security Incident Management	3	453-CIS-3
	457-CIS-3	Introduction to Cryptography	3	453-CIS-3
	459-CIS-3	Cyber defense technology	3	453-CIS-3

College Electives

College Electives offered other programs	332-CIS-3	Advanced Database Management Systems	3
	486-CIS-3	Design Thinking	3
	444-CIS-3	Human Computer Interaction	3
	458-CIS-3	Cloud Computing	3
	424-CIS-3	Mobile Application Development	3
	476-CIS-3	Internet of Things Analytics and Security	3
	485-CIS-3	Organizational Behavior	3
	122-CCE-3	Digital Logic	3
	132-CCE-3	Electrical Circuits	3
	472-CCE-3	Robotics	3
	492-CCE-2	Industrial Trends	

الخطة الدراسية

رمز المقرر	اسم المقرر	نظري	عملي	معمتدة	متطلب
الفصل الدراسي الاول					
111-عال-3	مقدمة في الحوسبة	2	1	3	
111-سلم-2	المدخل الى الثقافة الاسلامية	2		2	
108-رياض-3	التفاضل و التكامل-1	3		3	
201-عرب-2	المهارات اللغوية	2		2	
011-نجل-6	برنامج اللغة الانجليزية المكثف 1	6		6	
	المجموع	15	1	16	
الفصل الدراسي الثاني					
121-عال-3	مقدمة في البرمجة	2	1	3	111-عال-3
112-سلم-2	الثقافة الاسلامية 2	2		2	111-سلم-2
109-رياض-3	التفاضل والتكامل-2	3		3	101-رياض-3
202-عرب-2	التحرير العربي	2		2	201-عرب-2
012-نجل-6	برنامج اللغة الانجليزية المكثف 2	6		6	011-نجل-6
	المجموع	15	1	16	
الفصل الدراسي الثالث					
211-فيز-4	مبادئ الفيزياء	3	1	4	
113-سلم-2	الثقافة الاسلامية 3	2		2	112-سلم-2
113-رياض-3	الجبر الخطي	3		3	
222-عال-4	البرمجة الغرضية الموجهة	3	1	4	121-عال-3
251-عال-3	معمارية وتنظيم الحاسبات	3		3	
139-بشر-2	مهارات الاتصال	2		2	
	المجموع	16	2	18	
الفصل الدراسي الرابع					
109-كيم-3	كيمياء	2	1	3	
214-سلم-2	ثقافة اسلامية (4)	2		2	113-سلم-2
339-رياض-3	احصاء واحتمالات	3		3	
231-عال-4	خوارزميات و هياكل بيانات	3	1	4	222-عال-3
231-نال-3	مقدمة لقواعد البيانات	2	1	3	
223-عال-3	البرمجة الغرضية الموجهة المتقدمة	2	1	3	222-عال-3
	المجموع	14	4	18	
الفصل الدراسي الخامس					
133-هسس-3	الرياضيات المتقطعة	3		3	
341-عال-3	مبادئ هندسة البرمجيات	2	1	3	222-عال-3
381-عال-3	نظم تشغيل	2	1	3	231-عال-3

3-عال-251	3	1	2	المعالجات الصغيرة ولغة التجميع	3-عال-352
3-عال-222	3	1	2	شبكات الحاسب والاتصالات	3-عال-371
	3	1	2	معالجة الصور	3-عال-312
	18	5	13	المجموع	
الفصل الدراسي السادس					
3-عال-231	3	1	2	الذكاء الاصطناعي	3-عال-361
3-عال-222	3	1	2	البرمجة بالبايثون	3-عال-324
3-عال-371	3	1	2	امن الحاسب و الشبكات	3-نال-453
3-عال-222	3	1	2	هندسة الويب	3-عال-373
3-عال-222	3	1	2	تطوير الألعاب	3-عال-313
3-عال-231	3	1	2	بحوث العمليات	3-عال-314
	18	6	12	المجموع	
64 ساعة مجتازة	0		0	تدريب صيفي	0-عال-491
الفصل الدراسي السابع					
3-عال-361	3	1	2	مقدمة لتعلم الآلة	3-عال-462
3-عال-324	2	0	2	نماذج البرمجة	2-عال-425
	3	1	2	اختياري كلية-1	
	3	1	2	اختياري 1	
3-عال-491	3		3	مشروع 1	3-عال-492
3-عال-231	3	1	2	تصميم وتحليل خوارزميات	3-عال-432
	17	4	13	المجموع	
3-عال-414					
3-عال-381	3	1	2	الحوسبة المتوازية والموزعة	3-عال-482
	2		2	أخلاقيات الحوسبة	2-نال-483
	3		3	اختياري كلية-2	
	3	1	2	اختياري 2	
3-عال-492	3	1	2	مشروع 2	3-عال-493
2-عال-425	3	1	2	مترجمات	3-عال-414
	17	4	13	المجموع	
	138			عدد الوحدات الدراسية المعتمدة	

مقررات اختيارية في القسم

مسار	رمز المقرر	اسم المقرر	معمتدة	متطلب
الأنظمة الذكية	3-عال-463	الشبكة العصبية والمنطق الغامض	3	3-عال-361
	3-عال-464	هندسة المعرفة والنظم الخبيرة	3	3-عال-361
	3-نال-373	تنقيب البيانات	3	3-عال-361
هندسة البرمجيات	3-عال-442	اختبار البرمجيات وضمان الجودة	3	3-عال-341
	3-عال-443	مبادئ تصميم البرمجيات والهندسة المعمارية	3	3-عال-341
	3-عال-444	إدارة مشاريع البرمجيات	3	3-عال-341
أمن الشبكات	3-نال-456	إدارة الحوادث الأمنية	3	3-نال-453
	3-نال-457	مقدمة في التشفير	3	3-نال-453
	3-نال-459	تكنولوجيا الدفاع السبراني	3	3-نال-453

Appendix 1: PROGRAM DESCRIPTION

PROGRAM SPECIFICATIONS



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T4. PROGRAM SPECIFICATIONS

For guidance on the completion of this template, please refer to Chapter 2, of Part 2 of Handbook 2 Internal Quality Assurance Arrangement.

Program Specifications

Institution: **King Khalid University**

Date: 15-3-2019

College/Department: **College of Computer Sciences / Department of Computer Sciences**

Dean/Department Head: **Dr. Ali Algarwi**

Insert program and college administrative flowchart:

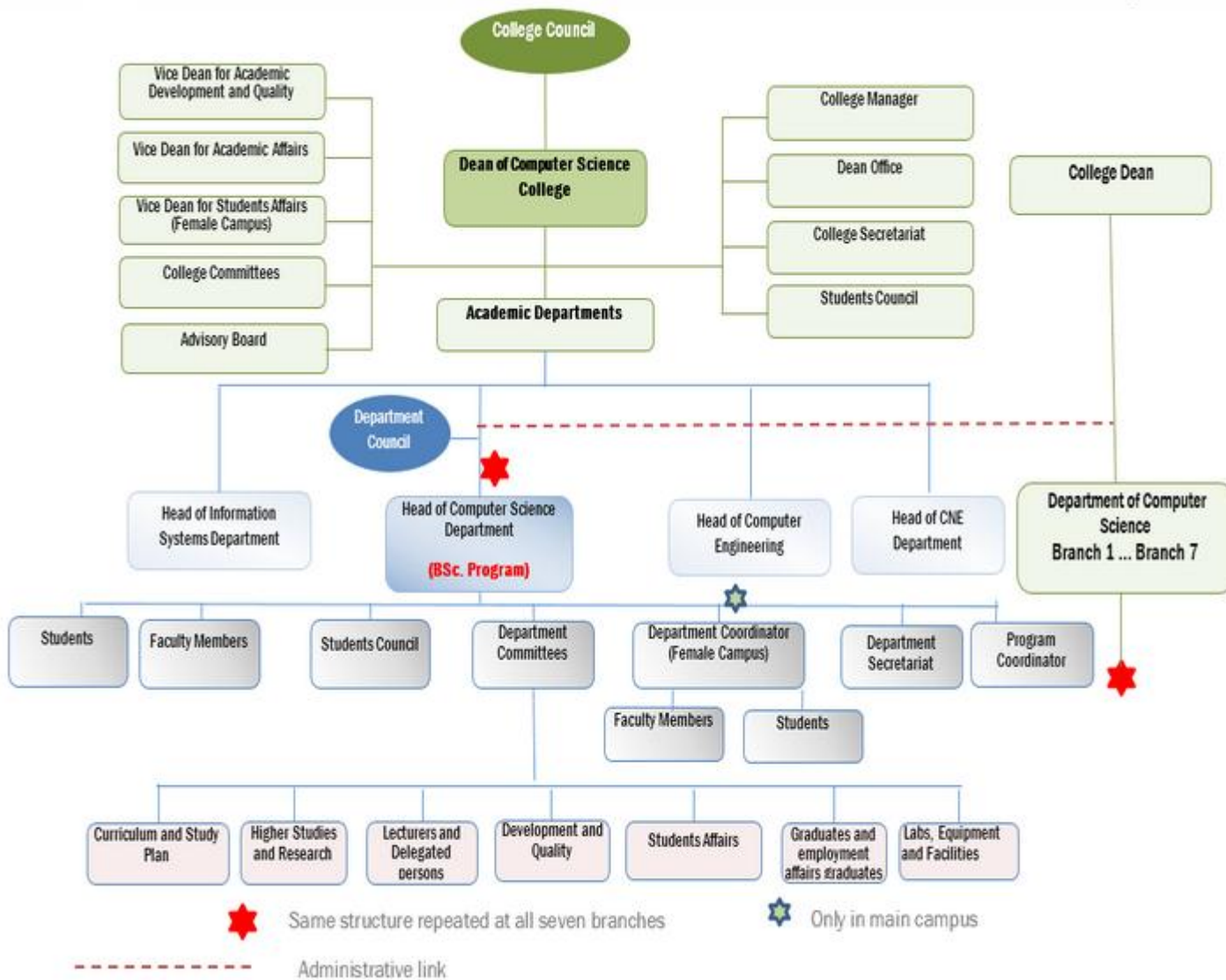


Fig 1.1 Program level administrative flowcharts

List all branches offering this program:

Main Campus:

Main Campus(M) : Computer Science	Abha	M
Main Campus (F) Computer Science	Al Sameer	F
Branch 1 College of Science and Arts	Rijal Alma	F
Branch 2 College of Science and Arts	Majardh	F
Branch 3 College of Science and Arts	Sarat Abiada	F
Branch 4 College of Science and Arts	Tanumah	M
Branch 5 College of Science and Arts	Khamis Mushayt	F
Branch 6 College of Science and Arts	Ahad Rafidah	F
Branch 7 College of Science and Arts	Dahran Al Junoob	M
Branch 8 College of Science and Arts	Muhayil	M

A. Program Identification and General Information

1. Program title and code: Bachelor in Computer Sciences	010201
2. Total credit hours needed for completion of the program: 138	
3. Award granted on completion of the program: Bachelor in Computer Sciences	
4. Major tracks/pathways or specializations within the program (eg. transportation or structural engineering within a civil engineering program or counseling or school psychology within a psychology program) Single path is implemented : Computer Sciences	
5. Intermediate Exit Points and Awards (if any) (eg. associate degree within a bachelor degree program) None	

6. Professional occupations (licensed occupations, if any) for which graduates are prepared. (If there is an early exit point from the program (eg. diploma or associate degree) include professions or occupations at each exit point)

- System Administrator,
- Software Developer,
- Network Administrator
- Software Analyst

7. (a) New Program

Planned starting date

(b) Continuing Program

Year of most recent major program review

2019

List recent major review or accreditation contracts.

Reviewer : Dr Lahouari Ghouti, KFUPM

Date:

8. Name of program chair or coordinator. If a program chair or coordinator has been appointed for the female section as well as the male section, include names of both.

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Coordinator -Computer Science

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9. Date of approval by the authorized body (MOE).

Campus Location	Approval By	Date
Main Campus:	Ministry of Education	1/2/1420 (7/B/4096)
1. College of Computer Science Abha M		
2. College of Computer Science Al Sameer F		
3. College of Science and Arts Khamis Mushayt F		
4. College of Science and Arts Rijal Alma F		
5. College of Science and Arts Majardh F		

6. College of Science and Arts Sarat Abiada	F		
7. College of Science and Arts Tanumah	M		
8. College of Science and Arts Ahad Rafidah	F		
9. College of Science and Arts Dahran Al Junoob	M		
10. College of Science and Arts Muhayil	M		

B. Program Context

1. Explain why the program was established.

a. Summarize economic reasons, social or cultural reasons, technological developments, national policy developments or other reasons.

The program is established to produce:

- ✓ Computer science graduates to empower the private and public sector and thereby provide qualified professional to the Saudi Arabian IT Market and actively contribute in building the Saudi knowledge Society.
- ✓ Competent computer science professionals such as System Administrator, Software Developer, Network Administrator and software Analyst to fulfill the requirements of the local labor market growth in information and Communication technology.
- ✓ Well prepared graduates to serve the community who are fully aware of professional ethics and responsibility.

b. Explain the relevance of the program to the mission and goals of the institution.

The program mission, goals and objectives are designed to fully comply with the computer sciences college and King Khalid university missions, Table 1 is showing the University and college missions mapping. Table 2 is showing college and program missions mapping.

Table 1. University Mission with College Mission

<div style="text-align: center;"> <p><i>College mission</i></p> <p><i>University mission</i></p> </div>		University mission			
		<p><i>King Khalid University commits to providing relevant academic environments for high-quality education, conducting innovative scientific research, providing constructive community services, and maximizing the employment of knowledge techniques</i></p>			
		High Quality Education	Innovative Scientific Research	Constructive Community Services	Employment Of Knowledge Techniques
College mission <i>Provide high-quality education and the needed requirements</i>	Quality Education	✓			
	Research		✓		

<i>for research and innovation to produce graduates with high professional competence in the field of computer science and engineering and technical participation in community service</i>	Community Services				✓	
	Professional competence					✓

Table 2. Mapping College Mission with Program Mission

<div style="display: flex; justify-content: space-between;"> <i>Program mission</i> <i>College mission</i> </div>		College Mission <i>Provide high-quality education and the needed requirements for research and innovation to produce graduates with high professional competence in the field of computer science and engineering and technical participation in community service</i>				
		Quality Education	Research	Community Services	Professional Competence	
Program mission <i>provide high quality education and scientific</i>	High Quality Education	✓	✓			
	Research Scientific	✓	✓		✓	

<i>research in computer science by upholding human values, offering constructive community services and employment opportunities</i>	Constructive Community Services		✓	✓		
	Opportunities Employment			✓		✓

2. Relationship (if any) to other programs offered by the institution/college/department.

- a. Does this program offer courses that students in other programs are required to take? Yes Y
No

If yes, what has been done to make sure those courses meet the needs of students in the other programs?

CS program courses are also offered to the following programs:

- Information Systems
- Computer Engineering

List of Courses offered by Computer Sciences Program to other Programs:

No.	Course	Offered to
1.	111CCS Introduction to Computing	College of Computer Sciences - (Computer Engineering program/Information Systems Program)
	121-CCS-3 Introduction to Programming	
	231 -CCS-3 Data Structures and Algorithms	
	313--CCS-3 Game Development	
	361--CCS-3 Artificial Intelligence	
	324--CCS-3 Programming with Python	
	222 -CCS-3 Object-Oriented Programming	

2.	231-CCS-3 Data Structures and Algorithms	College of Computer Sciences - Information systems
	371-CCS-3 Data Communication and Computer Networks	
	381-CCS-3 Operating Systems	
	472-CCS-3 Cryptography	

The learning outcomes of the courses offered to other programs are mapped with the respective program learning outcomes, by which the needs of the other programs are ensured to be met.

The departmental curriculum committee of other programs is reviewing the objectives and Learning Outcome (Los) of courses that are offered by computer sciences program and Y communicate their needs to the computer sciences department. Most of the courses offered to other programs are basic programming, algorithmic, data structure and operating systems that are universal. In addition Continuous course revision is made based on students and staff surveys analyses by programs coordinator and any concern is communicated to the Computer science department head for revision.

b. Does the program require students to take courses taught by other departments? Yes

No

List of Courses offered by other Programs to Computer Sciences Program

No.	Course	Offered by
1.	108-MATH-3 (Calculus 1)	College of Science-Mathematics Program
	109-MATH-3 (Calculus 2)	
	113-MATH-3 (Linear Algebra)	
	339-MATH-3 (Probability & Statistics)	
	133-CCE-3 (Discrete Structures)	
2.	211-PHYS-4 (Principles of Physics)	College of Science-Physics Program
	111-IC1-2 The Entrance to the Islamic Culture	
	112-IC1-2 (Islamic Culture -2)	

3.	113-IC1-2 (Islamic Culture -3)	College of Shariah and Fundamentals of Religion
	214-IC1-2 (Islamic Culture -4)	
4.	201-ARAB-2 (Arabic Language Skills)	College of Humanities-Arabic language Program
	112-ARAB-2 (Arabic Editing)	
5.	011-ENG-6 (Intensive English Program 1)	College of Languages and Translation
	012-ENG-6 (Intensive English Program 2)	
6.	231-CIS-3 (Introduction to Databases)	College of Computer Sciences-
	453-CIS-3 (Network Security)	
	483-CIS-2 (Computer and Information Ethics)	
7.	Communication Skills	College of Business and Administration

3.If yes, what has been done to make sure those courses in other departments meet the needs of students in this program?

The computer Science courses offered by other programs are informed (Department of Information system, College of Science, College of linguistics, College of Islamic Studies) to prepare the course specification as per Computer Science learning Outcomes. The mapping between course learning outcomes and CS program learning outcomes are verified by the curriculum committee and mapped with the Program specification to ensure the fulfillment of Program Learning outcomes by the offerd courses. Continuous course revision is made based on students and staff surveys, analyses by program coordinator.

3. Do students who are likely to be enrolled in the program have any special needs or characteristics? (eg. Part time evening students, physical and academic disabilities, limited IT or language skills).

 N

Yes

No

4. What modifications or services are you providing for special needs applicants?

Accessibility of lifts and ramps to reach their class and lab are well arranged by the university administration.

C. Mission, Goals and Objectives

1. Program Mission Statement

To provide high quality education and scientific research in computer science by upholding human values, offering constructive community services and employment opportunities

2. List Program Goals/objectives (eg. long term, broad based initiatives for the program, if any)

The Computer Sciences Program at King Khalid University is intending to achieve the following objectives:

Prepare Computer Sciences graduates to:

- Create adequate educational environment that focuses on personal development and ambition as well as creativity, entrepreneurial spirit and a mutual commitment
- Develop innovative, interdisciplinary research groups working at the intersection of national challenges, faculty interest and industry needs.
- Raise the profile and facilitate engaged service on local committees and increase contribution to positively influence in national and international technical and scientific committees.
- Strengthening institutional affiliation and effectiveness by providing clear career progression models, advanced training opportunities, leadership development, and articulate the alignment of institutional and individual aspirations.

3. List major objectives of the program within to help achieve the mission. For each measurable objective describe the measurable performance indicators to be followed and list the major strategies taken to achieve the objectives.

Table 3. Program Objectives, Indicators

Measurable Objectives	Measurable Performance Indicators	Major Strategies
be employed in a professional computing field or continue research in graduate program	Proportion of graduates employed.	Employment assistance and Guidance by the committee of graduates and employment affairs.
	Proportion of graduates continue their education by enrolling for Master's program	Guidance and counseling by the graduates and employment affairs
	Students' overall evaluation on the quality of their learning experiences	Student Survey conducted by the deanship of registration.
demonstrate sense of ethical and social	Proportion of students who attended workshops, seminars,	Encouraging students to participate in various events

responsibilities while leading, designing and developing computer projects	contests and other skill development events.	and conducting such events in the department.
	Proportion of students registered with various internships.	Making opportunities for student internships through Alumni and other references in industries.
	Proportion of faculty with funded research projects	Encouraging faculty by providing funds and environment for research proposals
contribute effectively to the economic development of the Saudi society through the adaptation of new computing technologies for business and research	Number of papers or reports presented at academic conferences during the past year per full time equivalent faculty members.	Encouraging faculty by providing funds for participating and presenting in conferences.
	Proportion of full time teaching faculty, staff and students actively engaged in community service activities.	Arranging and involving faculty and students in social care activities by the social care committee.
	Percentage of faculty participated in national/international professional activities.	Encouraging faculty by providing enough funds for participating in various professional development activities.
	Proportion of industrial members in the advisory board	Including participants from industries in the advisory board of the program.

D. Program Structure and Organization

1. Program Description: List the core and elective program courses offered each semester from Prep Year to graduation using the below Curriculum Study Plan Table (A separate table is required for each branch IF a given branch offers a different study plan).

A program or department manual should be available for students or other stakeholders and a copy of the information relating to this program should be attached to the program specification. This information should include required and elective courses, credit hour requirements and department/college and institution requirements, and details of courses to be taken in each year or semester.

The Computer Science study plan has been prepared based on the guidelines of University Academic Program development guide book which fulfills the requirement of National Qualification Frame work bachelor degree credits, skills and graduates requirements. The offerings courses are focused on knowledge, cognitive skills, inter personal communication and ICT and Numerical skills that are distributed and presented to our courses as well we programs specification. The details of the offering courses at University level, college Level and program level requirement courses, credits, pre-requisite are presented in Table 4 below:

Table 4. Curriculum Study Plan Table

No	Requirements	Number of Courses	Number of credit hours	%
1	University Courses	2+4=6	4+8=12	8.6
2	College Courses	3+2+2=7	10+12+6=28	20.28
3	Department Courses	31	92	66.6
4	Departmental Elective Courses	2	6	4.34
Total		46	138	100

* **Prerequisite** – list course code numbers that are required prior to taking this course.

Year	Course Code	Course Title	Required or Elective	* Pre-Requisite Courses	Credit Hours	Offering Department
1 st Year Semester 1	111-CCS-3	Introduction to Computing	Department Requirement		3	Dept. of CS
	111-ICI-2	The Entrance to the Islamic Culture 1	University Requirement		2	Dept. of Chariaa
	108-MATH-3	Calculus 1	College Requirement		3	Dept. of Mathematics
	201-ARAB-2	Arabic Language Skills	University Requirement		2	Dept. of Chariaa
	011-ENG-6	Intensive English Program 1	College Requirement		6	Dept. of English
1 st Year Semester 2	121-CCS-3	Introduction to programming	Department Requirement	111-CCS-3	3	Dept. of CS

Year	Course Code	Course Title	Required or Elective	* Pre-Requisite Courses	Credit Hours	Offering Department
	112-ICI-2	Islamic Culture 2	University Requirement	111ICI	2	Dept. of Chariaa
	109-MATH-3	Calculus 2	College Requirement	101MATH	3	Dept. of Mathematics
	202-ARAB-2	Arabic Editing	University Requirement		2	Dept. of Chariaa
	012-ENG-6	Intensive English Program 2	College Requirement	011ENG	6	Dept. of English
2nd Year Semester 1	211-PHY-4	Principles of Physics	College Requirement		4	Dept. of Physics
	113-ICI-3	Islamic Culture (3)	University Requirement	112ICI	2	Dept. of Chariaa
	113-MATH-3	Linear Algebra	Department Requirement		3	Dept. of Mathematics
	222-CCS-4	Object Oriented Programming	Department Requirement	121-CCS-3	4	Dept. of CS
	251-CCS-3	Computer Organization and Architecture	Department Requirement		3	Dept. of CS
	139-BUS-2	Communication Skills	College Requirement		2	Dept. of Business Administration
2nd Year Semester 2	211-CHE-	Chemistry	College Requirement		3	Dept of Chemistry
	214-ICI-2	Islamic Culture (4)	University Requirement	113ICI	2	Dept. of Chariaa

Year	Course Code	Course Title	Required or Elective	* Pre-Requisite Courses	Credit Hours	Offering Department
	339-MATH-3	Probability and Statistics	Department Requirement		3	Dept. of Mathematics
	231-CCS-4	Data Structures & Algorithms	Department Requirement	222-CCS-3	4	Dept. of CS
	231-CIS-3	Introduction to Databases	Department Requirement		3	Dept. of IS
	223-CCS-3	Advanced Object Oriented Programming	University Requirement	222-CCS-3	3	Dept. of CS
3rd Year Semester 1	133-CCE-3	Discrete Structures	Department Requirement		3	Dept. of Mathematics
	341-CCS-3	Principles of Software Engineering	Department Requirement	222-CCS-3	3	Dept. of CS
	381-CCS-3	Operating Systems	Department Requirement	231-CCS-3	3	Dept. of CS
	352-CCS-3	Microprocessor and Assembly Language	Department Requirement	251-CCS-3	3	Dept. of CS
	371-CCS-3	Data Communication and Computer Networks	Department Requirement	222-CCS-3	3	Dept. of CS
	312-CCS-3	Image Processing	Department Requirement	315MATH	3	Dept. of CS

Year	Course Code	Course Title	Required or Elective	* Pre-Requisite Courses	Credit Hours	Offering Department
3 rd Year Semester 2	361-CCS-3	Artificial Intelligence	Department Requirement	231-CCS-3	3	Dept. of CS
	324-CCS-3	Programming with Python	Department Requirement	222-CCS-3	3	Dept. of CS
	453-CIS-3	Computer and Network Security	Department Requirement	371-CCS-3	3	Dept. of IS
	373-CCS-3	Web Engineering	Department Requirement	222-CCS-3	3	Dept. of CS
	313-CCS-3	Game Development	Department Requirement	222-CCS-3	3	Dept. of CS
	314-CCS-3	Operations Research		231-CCS-3	3	Dept. of CS
4 th Year Semester 1	462-CCS-3	Introduction to Machine Learning	Department Requirement	361-CCS-3	3	Dept. of CS
	425-CCS-2	Programming Paradigms	Department Requirement	324-CCS-3	2	Dept. of CS
		Common Elective 1- (College level)	Department Requirement		3	Dept. of CS
		Elective -1	Department Requirement		3	Dept. of CS/IS
	492-CCS-3	Project -1	Department Requirement	491-CCS-0	0	Dept. of CS

Year	Course Code	Course Title	Required or Elective	* Pre-Requisite Courses	Credit Hours	Offering Department
	432-CCS-3	Design and Analysis of Algorithms		331-CCS-3	3	Dept. of CS
4th Year Semester 2	414-CCS-3	Theory of Compiler	Department Requirement	425-CCS-2	3	Dept. of CS
	482-CCS-3	Parallel and Distributed Computing	Department Requirement	381-CCS-3	3	Dept. of CS
	483-CIS-2	Computing Ethics	Department Requirement		2	Dept. of IS
		Common Elective 2 - (College level)	Department Requirement		3	Dept. of CS
		Elective - 2	Department Requirement		3	Dept. of CS/IS
	493-CCS-3	Project 2		492-CCS-3	3	Dept. of CS
Department Electives						
Intelligent Systems	463-CCS-3	Neural Network and fuzzy logic	Department Requirement	361-CCS-3	3	Dept. of CS
	464-CCS-3	Knowledge Engineering and Experts System	Department Requirement	361-CCS-3	3	Dept. of CS
	373-CIS-3	Data Mining	Department Requirement	361-CCS-3	3	Dept. of IS
Software Engineering	442-CCS-3	Software Testing and Quality Assurance	Department Requirement	341-CCS-3	3	Dept. of CS

Year	Course Code	Course Title	Required or Elective	* Pre-Requisite Courses	Credit Hours	Offering Department
	443-CCS-3	Principles of Software Design and Architecture	Department Requirement	341-CCS-3	3	Dept. of CS
	444-CCS-3	Software Project Management	Department Requirement	341-CCS-3	3	Dept. of CS
Network Security	456-CIS-3	Security Incident Management	Department Requirement	453-CIS-3	3	Dept. of IS
	457-CIS-3	Introduction to Cryptography	Department Requirement	453-CIS-3	3	Dept. of CS
	457-CIS-3	Cyber defense technology	Department Requirement	453-CIS-3	3	Dept. of CS

College Electives

Course Code	Course Title	Credit Hours	Offering Department
486-CIS-3	Design Thinking	3	Department of Information Systems
444-CIS-3	Human Computer Interaction	3	Department of Information Systems

472-CCE-3	Robotics	3	Department of Computer Engineering
447-CCE-3	Internet of Things	3	Department of Computer Engineering
454-CCE-3	Wireless Networks	3	Department of Computer Engineering
443-CCE-3	Real Time Systems	3	Department of Computer Engineering
457-CIS-3	Cloud Computing	3	Department of Information Systems
424-CIS-3	Mobile Application Development	3	Department of Information Systems
332-CIS-3	Advanced Database Management Systems	3	Department of Information Systems
476-CIS-3	Internet of Things Analytics and Security	3	Department of Information Systems

Table 5

2. Required Field Experience Component (if any) (e.g. internship, cooperative program, work experience)

Summary of practical, clinical or internship component required in the program. Note: see Field Experience Specification
a. Brief description of field experience activity All students should complete summer training in a company and get trained in hardware, software and organizational management. The students are required to give a weekly progress report and a final progress report from the company and Coordination with the supervisor of the training company regarding the final evaluation during the training period and send it to make sure the department head. After completion of the

training, each student should submit a Training report and give a presentation about the training for evaluation and grading
b. At what stage or stages in the program does the field experience occur? (e.g. year, semester) Third Year (Semester 6)
c. Time allocation and scheduling arrangement. (e.g. 3 days per week for 4 weeks, full time for one semester) 6 to 8 weeks ; 5 days a week ; Minimum 150 hours
d. Number of credit hours (if any) 0 (Zero)

3. Project or Research Requirements (if any)

Summary of any project or thesis requirement in the program. (Other than projects or assignments within individual courses) (A copy of the requirements for the project should be attached.)
a. Brief description The final year project is one of the primary methodologies used for the under graduate computer sciences program to provide students with the opportunity to gain experience on industry practices. Making surveys about previous works related to their project area, reading research articles about state of art technologies and proposing new methods, technologies, and applications are the major activities involved in this course. Students undergo through different software design and development processes using adequate models & platforms and provide technical or conceptual contributions.
b. List the major intended learning outcomes of the project or research task. <ul style="list-style-type: none"> • Plan and design the implementation requirements of the project by analyzing any real world problem. • Design solutions to the planned project using the knowledge that has been acquired during the program. • Illustrate the ability to solve problems as a group and to manage time, resources and task • Demonstrate the professional and ethical values by cooperating as a team member of the project and exhibit their leadership qualities. • Demonstrate proficiency through written reports and oral presentation.
c. At what stage or stages in the program is the project or research undertaken? (eg. level) Final (IV) Year, Semester 7 & 8 , once they complete the pre-requisite courses.
d. Number of credit hours (if any) Phase 1 : 492-CCS-3 Project 1 – 2 Credit Hours Phase 2 : 493-CCS-3 Project 2 – 3 Credit Hours

e. Description of academic advising and support mechanisms provided for students to complete the project. Each group of students is assigned to specialized supervisor to monitor and guide the academic process. More details about the project are available in Project Guidelines .
f. Description of assessment procedures (including mechanism for verification of standards) Assessments are made from presentation of projects in both the phases. Supervisor has 50% of marks and external evaluation committee has 50% of mark. External evaluation committee constitute of two experts form male campus and two person from female campus

4. Learning Outcomes in Domains of Learning, Assessment Methods and Teaching Strategy

Program Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning and teaching.

The *National Qualification Framework* (NQF) provides five learning domains. Learning outcomes are required in the first four domains and some programs may also require the Psychomotor Domain.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable learning outcomes required in each of the learning domains. **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each program learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process.

Table 6. NQF Learning Outcomes

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Definemathematical concepts, algorithmic principles, and computer science fundamentals (A)	Lectures, seminars, discussion.	Exams, Long and Short Essays, Peer Evaluations and tutorial/lab exercises
2.0	Cognitive Skills		
2.1	Apply computer science knowledge and software development fundamentals to produce solutions using computing-based systems for varied problems.(B)	Lectures, seminars, discussion. Lab and Tutorial sessions.	Reports and Individual and group presentation, Tables, Graphs

2.2	Analyze a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.(C)	Lectures, Labs, tutorials, discussion, Collaborative learning.	Exams, Peer Evaluations, Long and Short Essays and Practical exercises and laboratory reports,
23	Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.(D)	Lectures, laboratory, seminars, discussion, Collaborative learning,, projects.	Graduation projects , Individual and group presentation, Group Report, Videos and Posters
3.0	Interpersonal Skills & Responsibility		
3.1	Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.(E)	Seminars, discussion, Collaborative learning, small projects.	Exams, Peer Evaluation, Practical exercises, Projects
3.2	Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline. (F)	Laboratory, seminars, discussion, Collaborative learning, projects.	Presentation, mini-projects, graduation projects, technical report, Lab Activities
4.0	Communication, Information Technology, Numerical		
4.1	Communicate effectively in a variety of professional contexts. (G)	Laboratory, seminars, discussion, Collaborative learning, small projects.	Graduation projects and Individual, Table, Graph, speeches and group presentation
5.0	Psychomotor		
5.1			
5.2			

Program Learning Outcomes Mapping Matrix

Identify on the table below the courses that are required to achieve the program learning outcomes. Insert the program learning outcomes, according to the level of instruction, from the above table below and indicate the courses and levels that are required to teach each one; use your program's course numbers across the top and the following level scale. Levels: I = Introduction P = Proficient A = Advanced (see help icon)

Table 7. Program Learning Outcome Mapping Matrix

Courses/ PLOs	A	B	C	D	E	F	G
111-CCS-3	I	I		I			
111-ICI-2	I				I	I	I
108-MATH-3	I	I			I		I
201-ARAB-2					I	I	I
011ENG-6					I	I	I
121-CCS-3	I	I		I			
112-ICI-2	I				I	I	I
109-MATH-3	I	I			I		I
202-ARAB-2					I	I	I
012-ENG-6					I	I	I
211-PHY-4	I					I	I
113-ICI-3	I				I	I	I
113-MATH-3	I	I			I		I
222-CCS-4	I	I	I	I			
251-CCS-3	I		I		I		
139-BUS-2					I	I	I
109-CHEM-3	I						I
214-ICI-4	I				I	I	I
339-MATH-3	I	I			I		I
231-CCS-4	P	P	P	P			
231-CIS-3	P	P		P		P	
223-CCS-3	P	P	P	P	P		
133-CCE-3	I	I			I		I
341-CCS-3	P	P	P	P	P		
381-CCS-3	P	P		P	P	P	
352-CCS-3	P	P	P		P		
371-CCS-3	P	P	P	P	P		
312-CCS-3	P		P	P	P		

361-CCS-3	P	P	P	P		P	
324-CCS-3	P		P	P			
453-CIS-3	A		A	A	A		
373-CCS-3		P		P	P	P	
313-CCS-3			P	P	P	P	P
314-CCS-3	P	P	P	P			
491-CCS-0		A			A	A	A
462-CCS-3							
425-CCS-2	A	A	A		A		
492-CCS-3	A	A	A	A	A	A	A
432-CCS-3	A		A	A			A
414-CCS-3	A	A	A		A		
482-CCS-3		A	A	A	A	A	
483-CIS-2					A	A	A
493--CCS-3	A	A	A	A	A	A	A
463-CCS-3	A		A	A			A
464-CCS-3	A	A		A			A
373-CIS-3	A	A		A			A
442-CCS-3		A	A	A		A	A
443-CCS-3		A	A	A		A	A
444--CCS-3		A	A		A	A	
456-CIS-3	A		A	A	A		
457-CCS-3	A		A	A	A		
459-CCS-3	A		A	A	A		

	University Requirement		Intelligent Systems Track Electives
	College Requirement		Software Engineering Track Electives
	Department Requirements		Network Security Track Electives

5. Admission Requirements for the program

Attach handbook or bulletin description of admission requirements including any course or experience prerequisites.

The University Council determines the number of students to be admitted for the upcoming academic year on the basis of the recommendations presented by the College and respective Department councils. The Deanship of Admissions and Registration prepares a draft recommendation to the University Council regarding the number of students to be admitted into the programs during the following academic year. Before starting the preparatory year the students are allowed to choose their major based on their performance in High School Grades, Ability Test (Qiyas) and Comprehensive Exam (Tahsili) as per the following composition of 30%, 30% and 40% respectively

Deanship of Admissions and Registration at King Khalid University stipulates the Rules and Regulations of Undergraduate Study, Examinations and its Implementation Rules. These policies and processes are discussed in the following sections and available at the following URL

http://dar.kku.edu.sa/sites/dar.kku.edu.sa/files/general_files/files/Lae7ah.pdf

Similarly students are also provided these rules and regulation in the form of Student Handbook available at the following URL

http://dar.kku.edu.sa/sites/dar.kku.edu.sa/files/general_files/files/Daleel_Altaleb.com_pressed.pdf

Admission of New Students

The University Council determines the number of students to be admitted for the upcoming academic year on the basis of the recommendations by the College and respective Department councils. Starting the preparatory year the students are allowed to choose their major based on their performance in High School Grades, Ability Test (Qiyas) and Comprehensive Exam (Tahsili) as per the following composition of 30%, 30% and 40% respectively.

Admission Requirements

An applicant for admission to a Bachelor in Computer Sciences program at College of Computer Science, King Khalid University must satisfy the following minimum requirements:

- The applicant should have a Saudi Arabian Nationality or a Saudi Arabian mother or who gets exception from the university internal policies or national interests.
- The applicant should have his/her high school certificate or an equivalent certificate from inside or outside Saudi Arabia.
- The applicant should obtain the secondary school certificate, or its equivalent, in a period of less than five years prior to his/her application. However the University Council may waive this condition if the applicant has a persuasive explanation.
- The applicant should have a certificate of good conduct.
- The applicant should clear the two exams for admission in any university degree program. One exam tests the aptitude and other for the assessment of subject competency. It is administered by the National Assessment Center for Higher Education in a large number of centers across the Kingdom.
 - a. The aptitude test (Qiyas) determines the general capabilities of students in Mathematics and Linguistics.

b. The comprehensive or subject test (Tahsili) evaluates the student's knowledge and ability in English and Sciences studied throughout the High School curriculum

- The applicant must be medically fit.
- The applicant must obtain the approval of his/her employer, if he/she is an employee in any government or private institution.
- The applicant must satisfy any other requirements specified by the University Council at the time of application
- The applicant should have the secondary school certificate, or its equivalent, as majored in natural or technological sciences.
- The applicant should not have been a former student of King Khalid University, or have been dropped out, dismissed, or expelled from King Khalid University or another university.
- The applicant must submit the required documents to the University within a specified period or else his admission will be cancelled.
- All the students admitted will be provided with the booklet (Student Handbook) mentioning their academic and non-academic rights and responsibilities. They are supposed to read them and consult with their academic advisor for any clarity deemed.

The scholarship application for the non-Saudi nationals (internal or external) will be governed under the same university rules and regulation.

6. Attendance and Completion Requirements

Attach handbook or bulletin description of requirements for:

a. Attendance.

Student in Bachelor in Computer Sciences program is promoted from one academic level to another according to the implementation rules approved by the University Council. The duration of each academic level equals one regular semester. Undergraduate curricula in Bachelor in Computer Sciences program comprise of ten semesters. The student should be aware of study system in his/her college like the rules and regulation of admission and registration, drop case, academic warnings, requirements of graduation and consultation with the student advisors for his/her needs in the concerned college. All the students are assigned with the academic advisors. The promotion of students from one level to another level is according to his/her successfully passing the courses. And he/she progresses in studies and will be achieving graduation after fulfilling its requirements.

b. Progression from year to year.

The academic year is divided into two regular semesters and, if available, one summer semester that is usually half of the time period of a regular semester. The degree requirements necessary for graduation are distributed across different levels, according to the study plan given at the following link <http://dcs.cs.kku.edu.sa/en/content/470>. There are 152 credit hours in the study plan of Bachelor in Computer Sciences.

c. Program completion or graduation requirements.

Student graduates after successfully completing all graduation requirements according to the Bachelor in Computer Sciences study plan, provided that his/her cumulative GPA is not less than 2.5. If the student has passed the required courses but his/her cumulative GPA is low, the College Council, on the basis of

the recommendations of the council of the department concerned, is entitled to specify the appropriate courses that the student must complete in order to improve his/her GPA. Following points are ensured before the issuance of the degree certificate.

- ✓ Students have to review their study plan to follow up to complete all its requirements before graduation.
- ✓ The Admission and Registration Deanship reviews all student records to make sure that the student has completed all requirements for graduation.
- ✓ The Admission and Registration Deanship sends to the University Council information containing student's lists of candidates for graduate; and in the first
- ✓ University council after the final examination each semester, including the summer semester.
- ✓ A student who receives incomplete grade or who are allowed to makeup exam in one or more courses in the last level of the study plan or similar cases that can fulfill the requirement are also included in the list of graduates.
- ✓ Graduation certificate is given to each graduate in Arabic and English languages, which explains: full name, place and date of birth, college, specialization, and degree obtained upon graduation and status. It is signed from the dean of admissions and registration and stamped by the university.

E. Regulations for Student Assessment and Verification of Standards

What processes will be used for verifying standards of achievement (eg., verify grading samples of tests or assignments? Independent assessment by faculty from another institution) (Processes may vary for different courses or domains of learning.)

Each student admitted to the Bachelor in Computer Sciences program is assigned with an academic advisor. Student with the consultation of academic advisor selects courses in each level fulfilling minimum requirements of 12 credit hours and up to 20 credit hours based on his performance as per the B. Sc. Computer Science curriculum study plan. The faculty member of the individual course assesses the performance of student by giving Assignments, Quizzes, Tests, Projects and Presentations. Student graduates after successfully completing the graduation requirements according to the degree plan and receives his/her cumulative GPA (Grade Point Average) in range of 2.5 to 5.0. The GPA values out of 4 and 5 with its equivalent percentage of marks are presented as part of Table 1.2. The GPA 1.0 out of 5 is representing less than 60 % of the marks, GPA 2.0 out of 5.0 is representing 60 % to 65 % of the marks, GPA 2.5 out of 5.0 is representing 65% to 70% of the marks

Evaluating Student Performance

- Each student admitted to the Bachelor in Computer Sciences program is assigned with an academic advisor. Student with the consultation of academic advisor selects courses in each level fulfilling minimum requirements of 12 credit hours and up to 20 credit hours based on his performance as per the B. Sc. Computer Science curriculum study plan. The faculty member of the individual course assesses the performance of student by giving Assignments, Quizzes, Tests, Projects and Presentations. Student graduates after successfully completing the graduation requirements according to the degree plan and receives his/her cumulative GPA (Grade Point Average) in range of 2.5 to 5.0. The GPA values out of 4 and 5 with its equivalent percentage of marks are presented as part of Table 1.2. The GPA 1.0 out of 5 is representing less than 60 % of the marks, GPA 2.0 out of 5.0 is representing 60 % to 65 % of the marks, GPA 2.5 out of 5.0 is representing 65% to 70% of the marks and the further details of GPA and its marks are presented in Table 1.1.

Examinations System

- A student will be denied to appear the final examination if he/she is absent from lectures and labs more than 25% of classes.

- A student cannot attend to examination room after half an hour of commencement of exam and cannot leave hall during the first half an hour.
- If student fails to attend the final examination of any of his/her scheduled courses due to circumstances beyond his control, the College Council, in exceptional cases may accept the excuse and arrange a make-up examination for the student within a period not exceeding the end of the next semester.
- Mostly, for every course the marks are divided into semester and final marks 50 each. The semester mark of 50 is distributed for Assignments, Quizzes, Tests, Projects, Presentations and Lab/Tutorial.

The grades of a student earns in each course are calculated as per the following Table 1.1

Table 8. Marks distribution between grades

Percentage	Grade	Grade Code	GPA (Out of 5.00)
95-100	Exceptional	A+	5.00
90-less than 95	Excellent	A	4.75
85-less than 90	Superior	B+	4.50
80-less than 85	Very Good	B	4.00
75-less than 80	Above Average	C+	3.50
70-less than 75	Good	C	3.00
65-less than 70	High Pass	D+	2.50
60-less than 65	Pass	D	2.00
Less than 60	Fail	F	1.00

The calculation of GPA and Cumulative GPA has been shown with help of sample data in Table 1.2 and Table 1.3.

Table 9. Sample Grade Details for Semester 1

Course	Cr. Hrs.	%	Code	GPA	Quality Points
012-ENG-6	2	85	B+	4.50	9
112-ICI-2	3	70	C	3.00	9
002-MATH-3	3	92	A	4.75	14.25
111-CCS-3	4	80	B	4.00	16
TOTAL	12				48.25

FIRST SEMESTER GPA = Total Quality Points (48.25)/ Total Credits (12) = 4.02

Cumulative GPA

Cumulative GPA is the total quality points of the student has achieved in all courses he has taken since his enrollment at the university, divided by the total numbers of credit hours assigned of these courses.

Table 10. Sample Grade Details for Semester 2

Course	Cr. Hrs.	%	Code	GPA	Quality Points
012-ENG-6	2	96	A+	5.00	10
112-ICI-2	3	83	B	4.00	12
002-MATH-3	4	71	C	3.00	12
111-CCS-3	3	81	B	4.00	12
TOTAL	12				46.00

SECOND SEMESTER GPA=46/12= 3.83

Cumulative GPA = Total Quality Points (48.25+46)/Total Credits (12+12) = 3.93

The summer session is a period of instruction not exceeding (8) weeks not including the registration and final examination periods. The weekly duration of each course in the summer session is twice its duration during the regular academic semester.

F Student Administration and Support

1. Student Academic Counseling

Describe arrangements for academic counseling and advising for students, including both scheduling of faculty office hours and advising on program planning, subject selection and career planning (which might be available at college level).

Describe arrangements for academic counseling and advising for students, including both scheduling of faculty office hours and advising on program planning, subject selection and career planning (which might be available at college level).

Group of students (10-12) are assigned to academic advisor (faculty members) for providing academic counseling. Students are required to meet the Student Academic Advisor at least twice per semester; the academic advisors have students' data. Students with poor performance (GPA < 2.0) are closely monitored and are provided appropriate counseling. Students can get advice on academic matters from academic advisor. They can also have discussions on course and lecture specific problems. Each faculty members allocates 10 office hours per week in time table for students counseling. The department has a Students' Council which act as a bridge between student's community and department.

The student advisory list is attached in Annexure V

2. Student Appeals

Attach regulations for student appeals on academic matters, including processes for consideration of those appeals.

- Students can appeal to the Head of the Department in writing by filling the form available in the Head of the Department's office. The Head of the Department investigates the request and eventually resolves the matter. The Head of the Department may constitute a committee to look into the appeal of the student, if required.
- In some cases, the matter may be referred to the Department Council if it goes beyond the Head of the Department's authority.
- If the students are not satisfied with any action against the appeal that he made, they can register and appeal to the student right committee with supporting documents.
- The detail policies and regulations of student appeal are outlines in the student handbook. (Annexure III).

G. Learning Resources, Facilities and Equipment

1a. What processes are followed by faculty and teaching staff for planning and acquisition of textbooks, reference and other resource material including electronic and web based resources?

- Text books and reference books are identified by the subject coordinator in consultation with other course teachers at the beginning of the academic year. The list of books is submitted to the Central library through Head of the Department and Dean of College.
- Additional teaching materials are made available anytime by the course teachers through blackboard (lms.kku.edu.sa)

1b. What processes are followed by faculty and teaching staff for planning and acquisition resources for library, laboratories, and classrooms.

In the evaluation process, the books are checked against the course objectives from the course file by Course Coordinators and the Department Curriculum Committee

The computer science program courses are taught in traditional class room, blended and e-learning mode, the evaluation process for class room will be through online.

The department of Computer Science program has dedicated and shared computing resources. The laboratory facilities and licensed software are the exclusive computing resources for teaching learning process. In addition to that KKU portal provides computing facilities' for the staff and students for the enrichment of teaching learning process.

The Labs are classified into General and Special labs. The General labs are with high end computing process and connected to the server for programming, teaching and project development.

The department is strictly following the University policy for equipment Acquisition, Maintenance and Utilization process. The safety measures are implemented on physical , electrical , data and digital utilization .The inventory system is ensure the existence and access of the equipment for the effective teaching learning process with well-defined IT policy for the staff and Students.

2. What processes are followed by faculty and teaching staff for evaluating the adequacy of textbooks, reference and other resource provisions?

The Subject Coordinator periodically checks the availability of books in the library. If there is any requirement for a new edition of the text book or the reference book, he may give a requisition to the Head of the Department in the specified Performa.

3. What processes are followed by students for evaluating the adequacy of textbooks, reference and other resource provisions?

The students are encouraged to give their feedback on availability of books in the library. The library is fully computerized which enables the students to search for the availability of books.

4. What processes are followed for textbook acquisition and approval?

At the beginning of each academic year, the subject coordinators are informed to submit a list of required textbooks and reference books to the Head of the department. The requirements are reviewed by the Curriculum committee and the approved list is submitted to the Dean through Head of the department.

The Survey form to evaluate learning resources attached as Annexure

H. Faculty and other Teaching Staff

1. Appointments

Summarize the process of employment of new faculty and teaching staff to ensure that they are appropriately qualified and experienced for their teaching responsibilities.

The University and the college are very particular about verifying the standing and reputation of the institutions from which degrees were obtained. The process includes checking the world ranking of the University, country ranking of the university, considering if the institution is recognized by the Ministry of Higher Education, Saudi Arabia and if the institution is recognized by the appropriate government statutory bodies in country where this degree was obtained. This is done to ensure that the best people available for the job are hired. In order to ensure transparency in the recruitment process, all the candidates are required to attend the interview with original certificates of their qualifications and experience. All the certificates submitted by the candidates are verified for authenticity by the Saudi Arabian embassy in the country where the degree was obtained.

In appointments for teaching positions, due consideration is given for candidates with teaching, research and industrial experience. Since the computer science program curriculum incorporates latest technologies in the IT field, candidates having industrial experience are also appointed. This is to ensure that the students get practical advice and guidance from industrial experts.

- The recruitment process starts with wide announcement of the available vacant positions through suitable national and international media. The announcement includes job title and description with procedure to apply. The MOHE and University regulations can be seen in the its website
- Selection is made on the basis of C.V.'s and by direct or telephonic/video interviews. The appointments in the case of expatriates are on annual contracts and renewed only on satisfactory performance.

- In case of local candidates, C.V.'s are scrutinized and the candidates are called for a seminar/presentation, if the candidate is found suitable then the department council recommend to University Scientific Council through College council.

Application procedure:

Applications are invited by notifications in the website and through recruiting agencies. Individual application, through any means, reaching the Department is also processed, by the Committee on Faculty Affairs and senior faculty members chaired by the Head of the Department. The short listed candidates are invited for an interview held annually from different countries. Other candidates are normally accepted on the basis of their applications alone, but at times telephonic or video interviews are also conducted.

Qualifications and preferences:

Regarding teaching assignments, candidates are considered for four positions:

- a. Teaching Assistants (Only Saudi Nationals with a degree)
- b. Technical Staff (with Master degree and industrial or Lab experience).
- c. Lecturer (with Master degree and teaching experience)
- d. Assistant Professor (with Ph.D. and teaching experience)
- e. Associate Professor (senior Ph.D.. with rich experience)
- f. Full Professor (very senior University Professors and research supervisors)

Appointment procedure:

Offer will be made personally to the selected candidates through email, containing details such as position, service benefits, pay package and date of joining. The certificates and all other credentials will have to be duly certified by the Ministry of Higher Education of the candidate's country and attested by the Saudi Embassy in his country.

2. Participation in Program Planning, Monitoring and Review

- a. Explain the process for consultation with and involvement of teaching staff in monitoring program quality, annual review and planning for improvement.

All activities of the department are initially discussed internally and suggestions are forwarded to the Department council for further consideration and suitable decisions. The Department activities are planned and executed with the following committees are:

1. Quality and Academic Development Committee deals with all quality related activities based on ADAQ (Academic Development and Quality Deanship) guidelines.
2. Time Table committee deals with all tasks related to time table and room allocation.
3. Curriculum Committee responsible for the program curriculum and make necessary changes to maintain the consistency of the program.
4. E-Learning committee facilities E-Learning services to the staff and students.
5. Academic Project committee provides guidelines to the students and evaluates the same.
6. Examination Committee manages final examination process of the department
7. Equipment's and Facilities committee prepare the requirements of the laboratories and libraries.
8. Research Committee enhances all scientific research related activities

- b. Explain the process of the Advisory Committee (if applicable)

The college has installed the complete advisory committee process to assess the program objectives according to following link

https://drive.google.com/drive/folders/1rZK8MvtMGYZ6cPa6lLmvhV2cnz2av_jn

3. Professional Development

What arrangements are made for professional development of faculty and teaching staff for:

a. Improvement of skills in teaching and student assessment?

The department of Computer Science made the following arrangements for improvement of faculty.

- Periodical seminars/open discussions, training, workshop in computer science related topics.
- Introduce a Mechanism for staff performance in their academic activities
- Provision for faculties to attend national and international workshops/conferences in computer science.

b. Other professional development including knowledge of research?

- The department encourages participation in national and international conferences.

Periodic workshops and seminar are conducted on e-learning, effective teaching, educational technologies, academic development & quality, learning environment and other related topics for professional grooming of faculty.

- The department has entered into national/international collaboration to improve the program quality

4. Preparation of New Faculty and Teaching Staff

Describe the process used for orientation and induction of new, visiting or part time teaching staff to ensure full understanding of the program and the role of the course(s) they teach as components within it.

A new faculty member will be oriented in following ways:

- A new faculty is provided with a copy of Faculty Handbooks that contains all information about the duties and responsibilities of the faculty, including the rights, privileges and code of conduct.
- He/she will be asked to attend the workshops organized by University.
- The department will conduct periodic orientations for new faculty member to familiarize them with department, college and university regulations.

5. Part Time and Visiting Faculty and Teaching Staff

Provide a summary of Program/Department/ College/institution policy on appointment of part time and visiting teaching staff. (i.e. Approvals required, selection process, proportion of total teaching staff etc.)

N/A

I. Program Evaluation and Improvement Processes

1. Effectiveness of Teaching

a. What QA procedures for developing and assessing learning outcomes?

- Review of students assessments of academic programs and courses.
- Review of faculties' assessments of graduates work performances.
- Periodic meeting with course coordinators and course teachers
- Internal review and revision (self-assessment)
- External review of programs and courses.
- Training courses and workshops for staff members in the fields of teaching skills (Learning and teaching theories and strategies)
- Opinions and comments of staff members.

b. What processes are used for evaluating the skills of faculty and teaching staff in using the planned strategies?

- Study, review, and analysis student's assessments of academic programs and courses.
- Internal review and revision (self-assessment)
- External review of programs and courses.

2. Overall Program Evaluation

a. What strategies are used in the program for obtaining assessments of the overall quality of the program and achievement of its intended learning outcomes:

(i) from current students and graduates of the program?

- Feedback from current students to assess the difficulties faced by them in understanding the subjects and performing well.
- Taking feedback through e-Group from alumni to identify the weakness of the program and difficulties faced by them for pursuing higher education and in getting jobs.
- Course evaluation for all students
- Program evaluation for last 2 year students

Learning experience from final year students. (copy of survey formats attached as annexure)

(ii) from independent advisors and/or evaluator(s)?.

- Having collaboration with advisors and evaluators in the same program as part of collaboration project to evaluate the program.
- Currently the department of computer science identify two External Advisors

The program advisory board for computer science program

The above Program Objectives and their consistency is in process of review with the following College of Computer Science External Advisory Board(EAB) members


1. **Dr. Ali Mohammed Algarwi** , Dean, College of Computer Science, King Khalid University—Internal Member

<p>2. Dr. Areej Mohammed Abdullah Al-asiry, Assistant Dean for Female Students Affairs, College of Computer Science, King Khalid University-Internal</p> <p>3. Dr. Slaheddin Abdullah ElJarboui, Quality Unit Head, College of Computer Science, King Khalid University – Internal Member</p> <p>4. Prof. Hussam Mohammed Ramadan, President, Former Computer Science College(KKU), Dean, Yamamah University - External Member</p> <p>5. Dr. Adel Fadhil Ahmed, Dean, College of Computer Science and Engineering, King Fahd University of Petroleum and Minerals –External Member</p> <p>6. Dr. Abdullatif Mohammed Alabd Allatif, Deputy Executive Director of the National Digital Transformation Unit, Ministry of Communications and Information Technology – External Member</p> <p>7. Eng. Abdullatif Saeed Alshahrani, Director of the operation of information systems, Saudi Electricity Company – External - Member</p> <p>8. Mr. Ahmed Kamal Aldin Sahl, Dean Office, College of Computer Science, King Khalid University - Internal Member</p>
<p>(iii) from employers and other stakeholders.</p> <p>Currently the department of computer science identifies employers and stakeholders for evaluation</p>

Annexures:

- [Project Guidelines](#)
- [KKU Students Hand Book](#)
- [KKU Admission and Student Registration Guidelines](#)
- [Course specifications for all program courses](#)
- [Evaluation of University Experience](#)

Authorized Signatures

Dean/Chair	Name	Title	Signature	Date
Program Dean or Program Chair Main Campus - Male	Dr Yessisne Hadj Kacem	Head of Computer Science Department (main campus)		12/3/2019

Appendix 2: DESCRIPTION OF ACADEMIC COURSES

COURSE SPECIFICATIONS

Computer Science Courses



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

COURSE SPECIFICATIONS

(CS)

Introduction to Computing (111--CCS-3)

Course Specifications

Institution: King Khalid University Date: 17-02-2019
College/Department: College of computer science/Department of Computer Science

A. Course Identification and General Information

1. Course title and code: Introduction to Computing (111--CCS-3)			
2. Credit hours: 3			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course:			
5. Level/year at which this course is offered: Level 1 / 1st Year			
6. Pre-requisites for this course (if any): None			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: None			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

When we are planning our lessons, consider how we can flow from one mode to another, so that our instructional objectives are met.

B. Objectives

1. What is the main purpose for this course?

1.1.1.1.1.3 The main purpose of this course is to enable students to:

- Understand concept-programming basics of java and Core Concepts of Programming Languages.
- Discuss the characteristics of computers
- Design, code, and debug programs using a high level programming language.
- Be able to convert description verbal to algorithm that be accept to programming outcomes
- Appreciate the significance of the main characteristics of Programming development.
- Identify the applications of the fundamental principles of Programming.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Enhanced use of IT and Web-based references
- Update knowledge by focusing on recent research studies related
- Encourage visiting libraries and reading accredited journals through activation of self-learning through weekly assignments and project learning.
- Include e-books related to the course available

C. Course Description (Note: General description in the form used in Bulletin or handbook)

This course gives the students an introduction to computers and programs; Problem solving and algorithm development; Simple engineering and scientific problems; Introduction to the modular programming paradigm. Programming with emphasis on modular and structured programming technique: primitive data types, variables and constants, operators (arithmetic, assignment, increment, decrement, logical and relational); basic statements (Input and output); Boolean expressions; Control structures (conditional statements);

List of Topics	No of Weeks	Contact hours
An Introduction to Computer Science.	1	2
Computer Systems Organization: <ol style="list-style-type: none"> 1. Introduction 2. The Components of a Computer System 3. Memory and Cache 4. The Arithmetic/Logic Unit 5. The Control Unit 6. Putting All the Pieces Together—the Von Neumann Architecture 2 	1	2

<p><u>Operating System Basics</u></p> <ol style="list-style-type: none"> 1. Understanding System Software 2. Comparing the Major Operating Systems 3. Understanding Device Drivers 4. Understanding Digital Storage 	1	2
<p><u>Networking and Internet Basics</u></p> <ol style="list-style-type: none"> 1. Our Connected World: Communication Systems 2. Ways of Classifying Networks 3. Network Hardware 4. Understanding and Connecting to the Internet 5. Troubleshooting Network and Internet Connections 	1	2
<p>The Building Blocks Binary Numbers, Boolean Logic, and Gates.</p> <ol style="list-style-type: none"> 1. Introduction 2. The Binary Numbering System 3. Binary Representation of Numeric and Textual 4. Information Boolean Logic and Gates 	2	4
<p>Introduction to High-Level Language Programming:</p> <ol style="list-style-type: none"> 1. The language progression 2. A family of languages 	1	2
<p>Program Algorithm & design:</p> <ol style="list-style-type: none"> 1. Input & Output (concept only) 2. Variables (concept only) 3. Operators & Assignment Statement 4. Flowcharts 5. if Statements 6. Loops 7. Algorithm Tracing 	3	6

Java Basics: 1. Comments and Readability 2. Identifiers 3. Declaring & Using Variables 4. Assignment Statements 5. Initialization Statements 6. Numeric Data Types 7. Constants 8. Arithmetic Operators 9. Expression Evaluation 10. Type Casting 11. Strings 12. Tracing	3	6
Conditional Statements: 1. Conditions & Boolean Values 2. if Statements	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	0	30	0	60
	Actual	30	0	0	15	0	45
Credit	Planned	2	0	0	2	0	4
	Actual	2	0	0	1	0	3

3. Additional private study/learning hours expected for students per week.	5-7 Hours
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Explain the concepts of structured programming using a high level programming language.	<ul style="list-style-type: none"> • Lectures • Tutorials • Brainstorming • Case Studies 	<ul style="list-style-type: none"> • Homework • Quizzes • Mid term exams • Final exam
1.2	List the basics of design, implementation, and evaluation of computer software.		
2.0	Cognitive Skills		
2.3	Analyze problems and develop basic software solutions.	<ul style="list-style-type: none"> • Lectures • Tutorials • Laboratory • Group discussions 	<ul style="list-style-type: none"> • Homework • Quizzes • Mid term exams • Final exam
3.0	Interpersonal Skills & Responsibility		
3.2	Demonstrate the ability to work both independently and collaboratively.	<ul style="list-style-type: none"> • Lectures • Tutorials 	<ul style="list-style-type: none"> • Presentation • Report
4.0	Communication, Information Technology, Numerical		
4.3	Operate with software development tools, skills and techniques to produce software systems.	<ul style="list-style-type: none"> • Lectures • Tutorials • Laboratory • Group discussions 	<ul style="list-style-type: none"> • Homework • Quizzes • Lab Exam • Presentation
5.0	Psychomotor		
	NA		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz1	3	2
2	Assignment 1	4	3
3	First Mid- Term Exam	5	10
4	Quiz2	7	2
5	Assignment 2	8	3
6	Second Mid- Term Exam	9	10
7	Final Practical Exam (Marks distribution for various assessment is done the Practical Instructor)	15	20
8	Final Examination	16	50
9	Total Marks	-	100

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours as per schedule of teacher Time-Table are specified to the students and students are encouraged to consult the teacher in case of any problem related to the lectures/ assignment/ homework/ exercises/ practical.

E. Learning Resources

1. List Required Textbook

Invitation to Computer Science, G. Michael Schneider & Judith L. Gersting 7th Edition, ISBN-13: 9781133190820, 2017.

Computing Fundamentals: Introduction to Computers by Faithe Wempen, Publisher: Sybex
ISBN: 9781119039716, January 2015.

Introduction to programming Java: With a problem solving approach, by John Dean Dr and Ray Dean. McGraw-Hill Education; 2nd edition, 2013.
2. List Essential References Materials (Journals, Reports, etc.) Introduction to Java Programming, Comprehensive Version, by Y. Daniel Liang. Pearson; 11 edition (March 11, 2017)
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.) <ul style="list-style-type: none"> • http://math.hws.edu/javanotes • http://thenewboston.org/tutorials.php
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Signed Student Code of honor explained during student orientation to university to protect against plagiarism

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) <ul style="list-style-type: none"> ✓ Lecture rooms are equipped with whiteboard. ✓ Lecture rooms provide enough space for the students. ✓ Laboratories are well equipped and everything is provided to the students.
2. Technology resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none"> ✓ An easy accessible computer lab. ✓ Updated version of subject syllabus is uploaded for student reference. ✓ Computers are installed with the facility of LAN/WAN. ✓ Relevant software' for use of students.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Everything is already provided according to the course requirement.

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- ✓ Distribution of feedback forms at the end of semester to the students.
- ✓ Head of the department review overall course deficiencies based on the students' evaluation, faculty input, course file, and program assessment.
- ✓ Student course evaluation at the conclusion of the course.
- ✓ General knowledge questions regarding information security are asked from the students.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- ✓ Faculty assessment of the course and effectiveness of the teaching delivery.
- ✓ Periodic self-assessment of the program.
- ✓ Student attendance is closely monitored.
- ✓ Student feedback is considered for teaching evaluation.
- ✓ Mid Term Exam/Practical/Assignments/Homework determines the standard of teaching and become a milestone for teaching evaluation.

3. Processes for Improvement of Teaching

- ✓ Organize workshops on effective teaching methods to enable instructors to improve their teaching skills.
- ✓ Teaching method will focus on students' learning and on course learning outcomes.
- ✓ Regular seminars were arranged in the college of computer and information sciences in which each faculty member has to participate.
- ✓ Training of faculty members on different software/hardware is facilitated.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- ✓ The samples of student work in the course are appended to course files to check on the standard of grades and achievements
- ✓ Student exam question papers are verified by course coordinator and HOD.
- ✓ Answer sheets are checked by the faculty members who are teaching the course.
- ✓ Group checking technique is followed to have a uniform standard of checking the students' answer scripts.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- ✓ The feedback received from assessments will be used to plane for further improvement in the course syllabus, teaching method, and delivery of course materials.
- ✓ The course coordinators will be entrusted with the primary duty of administering every two-year a self-assessment of the program, and to evaluate the findings of this evaluation, the surveys of the employers, and the input of the exit interviews with the graduating students.

- ✓ Update text books.
- ✓ Consulting other top universities course specifications and contents.

Name of Course Instructor:

Signature: Mr Abdulaqader

Date Specification Completed:

Program Coordinator: Dr Yessine

Signature:

Date Received: 1/3/2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

COURSE SPECIFICATIONS

(CS)

Introduction to Programming (121--CCS-3)

Course Specifications

Institution: King Khalid University	Date: 18-02-2019
College/Department: College of computer science/Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: Introduction to Programming (121--CCS-3)			
2. Credit hours: 3			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course:			
5. Level/year at which this course is offered: Level 2			
6. Pre-requisites for this course (if any) Introduction to Computing (111--CCS-3)			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: None			
9. Mode of Instruction (mark all that apply)			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other :	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B. Objectives

1. What is the main purpose for this course?

Students will learn how to use elementary programming concepts, methods, appropriate repetition constructs and arrays in developing a Java program. Also, they will be able to differentiate between call by value and call by reference and local and global variables, as well.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- **Enhanced use of IT and Web-based references**
- **Update knowledge by focusing on recent research studies related**
- **Encourage visiting libraries and reading accredited journals through activation of self-learning through weekly assignments and project learning.**
- **Include e-books related to the course available**

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The objective of this course is to cover the fundamental concepts of procedural programming. This course introduces the Java programming language and helps students develop basic problem-solving skills. Topics include elementary in programming, repetition statements, nested loops, methods, pass arguments to a method, method overloading, method abstraction, use of methods in the math class, arrays, common array operations, methods with array arguments and return value, search and sort operations on array..

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction to Programming & JAVA 1- Introduction 2- Elementary in programming	1	2
Introduction to Object-Oriented Programming with Java: Classes, Objects, Methods, Class and Instance Data Value, Data Types, Operators, Data members and Inheritance. The Java Buzzwords.	1	2
Standard Input and Output in Java: System.out, System.in, Scanner class.	1	2
Mathematical Functions Characters, and Strings 1- Introduction 2- Common Mathematical Functions 3- Character Data Type and Operations 4- The String Type	1	2
Loops 1- Introduction 2- The while Loop 3- The do-while Loop 4- The for Loop 5- Which Loop to Use? 6- Nested Loops 7- Minimizing Numeric Errors 8- Keywords break and continue	3	6
Methods 1- Introduction 2- Defining a Method 3- Calling a Method 4- Passing Arguments by Values 5- Modularizing Code 6- Overloading Methods 7- The Scope of Variables 8- Method Abstraction and Stepwise Refinement	3	4

Single-Dimensional Arrays 1- Introduction 2- Array Basics 3- Copying Arrays 4- Passing Arrays to Methods 5- Returning an Array from a Method 6- Variable-Length Argument Lists 7- Searching Arrays 8- Sorting Arrays	3	6
Multidimensional Arrays 1- Introduction 2- Two-Dimensional Array Basics 3- Processing Two-Dimensional Arrays 4- Passing Two-Dimensional Arrays to Methods 5- Multidimensional Arrays	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	0	30	0	60
	Actual	30	0	0	15	0	45
Credit	Planned	2	0	0	2	0	4
	Actual	2	0	0	1	0	3

3. Additional private study/learning hours expected for students per week.

6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Recall the fundamentals concepts of programming techniques.	<ul style="list-style-type: none"> • Lectures • Group discussions • Case studies • Brainstorming 	<ul style="list-style-type: none"> • Homework • Quizzes • Exams
1.2	List the essentials of designing and implementing software systems, components, and processes.		
2.0	Cognitive Skills		
2.2	Construct and evaluate software solutions that address a variety of real-world problems.	<ul style="list-style-type: none"> • Lectures • Tutorial • Laboratory • Group discussions 	<ul style="list-style-type: none"> • Homework • Quizzes • Exams
3.0	Interpersonal Skills & Responsibility		
4.0	Communication, Information Technology, Numerical		
4.1	Communicate effectively in oral with range of audiences.	<ul style="list-style-type: none"> • Lectures • Tutorial • Laboratory 	<ul style="list-style-type: none"> • Lab Exam
5.0	Psychomotor		
	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz1	3	2

2	Assignment 1	4	3
3	First Mid- Term Exam	5	10
4	Quiz2	7	2
5	Assignment 2	8	3
6	Second Mid- Term Exam	9	10
7	Final Practical Exam (Marks distribution for various assessment is done the Practical Instructor)	15	20
8	Final Examination	16	50
9	Total Marks	-	100

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours as per schedule of teacher Time-Table are specified to the students and students are encouraged to consult the teacher in case of any problem related to the lectures/ assignment/ homework/ exercises/ practical.

E Learning Resources

1. List Required Textbooks

Intro to Java Programming, Comprehensive Version (10th Edition), by Y. Daniel Liang
2014.

2. List Essential References Materials (Journals, Reports, etc.)

How to Program in JAVA, by Paul J. Deitel and Harvey Deitel. Pearson; 10th Edition (2015).

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

).

4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.java.sun.com

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- ✓ **Lecture rooms are equipped with whiteboard.**
- ✓ **Lecture rooms provide enough space for the students.**
- ✓ **Laboratories are well equipped and everything is provided to the students.**

2. Technology resources (AV, data show, Smart Board, software, etc.)

- ✓ **An easy accessible computer lab.**
- ✓ **Updated version of subject syllabus is uploaded for student reference.**
- ✓ **Computers are installed with the facility of LAN/WAN.**
- ✓ **Relevant software' for use of students.**

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Everything is already provided according to the course requirement.

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- ✓ **Distribution of feedback forms at the end of semester to the students.**
- ✓ **Head of the department review overall course deficiencies based on the students' evaluation, faculty input, course file, and program assessment.**

- ✓ **Student course evaluation at the conclusion of the course.**
- ✓ **General knowledge questions regarding information security are asked from the students.**

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- ✓ **Faculty assessment of the course and effectiveness of the teaching delivery.**
- ✓ **Periodic self-assessment of the program.**
- ✓ **Student attendance is closely monitored.**
- ✓ **Student feedback is considered for teaching evaluation.**
- ✓ **Mid Term Exam/Practical/Assignments/Homework determines the standard of teaching and become a milestone for teaching evaluation.**

3. Processes for Improvement of Teaching

- ✓ **Organize workshops on effective teaching methods to enable instructors to improve their teaching skills.**
- ✓ **Teaching method will focus on students' learning and on course learning outcomes.**
- ✓ **Regular seminars were arranged in the college of computer and information sciences in which each faculty member has to participate.**
- ✓ **Training of faculty members on different software/hardware is facilitated.**

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- ✓ **The samples of student work in the course are appended to course files to check on the standard of grades and achievements**
- ✓ **Student exam question papers are verified by course coordinator and HOD.**
- ✓ **Answer sheets are checked by the faculty members who are teaching the course.**
- ✓ **Group checking technique is followed to have a uniform standard of checking the students' answer scripts.**

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- ✓ **The feedback received from assessments will be used to plane for further improvement in the course syllabus, teaching method, and delivery of course materials.**
- ✓ **The course coordinators will be entrusted with the primary duty of administering every two-year a self-assessment of the program, and to evaluate the findings of this evaluation, the surveys of the employers, and the input of the exit interviews with the graduating students.**
- ✓ **Update text books.**
- ✓ **Consulting other top universities course specifications and contents.**

Name of Course Instructor: MR Mufarreh

Signature:

Date Specification Completed:

Program Coordinator: Dr Yessine

Signature:

Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: King Khalid University	Date:	18/Feb/2019
College/Department : College of Computer Science / Computer Science		

A. Course Identification and General Information

1. Course title and code: Object Oriented Programming – 222 -CCS- 4			
2. Credit hours: 4 (3 Theory + 1 Practical)			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course Dr.Anand Deva Durai C			
5. Level/year at which this course is offered: Level 3/ II year			
6. Pre-requisites for this course (if any): Introduction to Programming– 121-CCS-3 Introduction to Programming			
7. Co-requisites for this course (if any):			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?

The aim of this course is to understand the concepts, principles, and techniques related to Java Programming. The main objective of the course is to teach the students how to select and write programs that are appropriate for problems that they might encounter. Students will become acquainted with the strengths and limitations of object-oriented programming (class objects), basic java programming with operators, selection statements, repetition statements, String class Methods and Arrays. This course offers the students a mixture of theoretical knowledge and practical experience.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

Blackboard system is being implemented which is a quick source of E-Learning; students can download ready reference materials. With constant monitoring, problem solving using OOP provides improvements in the course. The practical experiences through lab sessions are refined for further improvement periodically. Assignments and quizzes that could also bring out the analytical skills of the students are planned.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course gives an introduction to object-oriented programming in Java; development of algorithms. Several central mechanisms of object-oriented programming will be covered, including use of classes, objects and references; use of arrays, String & Math classes; use of Java's class library. Inheritance, exception handling and file handling are the important programming concepts that are taken away from this course.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Basics of Java Programming: Basic Java programs, comments, import statement, identifiers, Object Declaration, Object creation, new Operator, byte code (.class file) and JVM Selection Statements and Repetition Statements	2	6
Characters and String: String class and its Methods, String concatenation, Comparing Strings, Comparing Objects, Example Programs. Math Library: The Math class and its Methods, Examples.	1	3
User-defined Classes in Java: Defining and Using a Class, Defining and Using Multiple Classes, Matching Arguments and Parameters, Passing Objects to a Method, Constructors, Information Hiding and Visibility Modifiers, Local Variables.	2	6
Overloaded Methods and Constructors in Java: Returning an Object from a Method, The Reserved Word this, Overloaded Methods and Constructors, Class Variables and Methods, Call-by-Value Parameter Passing, Organizing Classes into Package.	2	6
Arrays and Collections: Array Basics, Arrays of Objects, Lists , Maps	1	3
Inheritance & Polymorphism: Basics, Super, Constructors in Inheritance, Method Overriding, Dynamic Method Dispatch, Abstract Classes, final in inheritance.	3	9
Packages and Interfaces: Packages, Access Protection, Importing, Interfaces.	1	3
Exception Handling: Catching Exceptions, Throwing Exceptions and Multiple catch Blocks	1	3
Files and I/O Streams: File and JFileChooser Objects, Low-Level File I/O, High-Level File I/O, Object I/O	2	6

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45			30		75
	Actual	45			15		60
Credit	Planned	3			2		5
	Actual	3			1		4

3. Additional private study/learning hours expected for students per week.	4
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define basic object oriented programming concepts using JAVA.	Lectures, discussion.	Exams, tests, and quizzes
1.2	Understand the flow of execution of any object oriented program.	Lectures, laboratory, discussion, Collaborative learning, small	Exams, tests, individual assignments, Practical exercises

		projects.	and homework.
2.0	Cognitive Skills		
2.1	Apply OOP principles in the development of a software system for different domains.	Lectures, tutorials, discussion, Collaborative learning.	Analytical and problem solving skills are assessed through a combination of examination, quizzes
2.2	Analyze the various possible programming constructs in developing solutions to various problems.	Lectures, tutorials, discussion, Collaborative learning.	Examination, quizzes and homework assignments.
2.3	Implement OOP concepts while developing a complete program.	Discussion, Collaborative Learning, Small Projects.	Mini-Projects, Research Papers and Technical Report.
2.4	Illustrate the usage and benefits of OOP in the development of software solutions.	Lectures, tutorials, discussion, Collaborative learning.	Examination, quizzes and homework assignments Mini-Projects
3.0	Interpersonal Skills & Responsibility		
4.0	Communication, Information Technology, Numerical		
4.1			
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm Examination – I (Theory)	6	10 %
2	Midterm Examination – II (Theory)	12	10 %
3	Quiz's – Theory	After Every chapter	4 %

4	Assignment – I	7	3%
5	Assignment – II	13	3%
6	Practical Examination	15	10 %
7	Assignment and Activity's - Practical	Weekly	10 %
8	Final Examination (Theory)	16	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
2. Office hours (10 hours/Week) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
3. Faculty has to be available in his office during the office hours for academic advice.
4. Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students
5. Refer to the faculty time table.

E Learning Resources

1. List Required Textbooks
 1. An Introduction to Object-Oriented Programming with JAVA
– Fifth Edition, 2010, Thomas Wu, McGraw Hill.
2. List Essential References Materials (Journals, Reports, etc.)
 1. JAVA : The Complete Reference– Seventh Edition, by Herbert Schildt,
Tata McGraw-Hill Publishing Company Limited.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

<http://www.lms.kku.edu.sa>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

<http://www.java.com/en/about/oracleacademy.jsp>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms – 03

Number of seats in each class room – 50

Laboratories - 03

Accessories – Data Show Projector

2. Technology resources (AV, data show, Smart Board, software, etc.)

Computers are installed with relevant software for ready to use.

Internet connection

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Overhead projector

Computer for individual students with network connection

Internet access

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

Students are required to submit individual feedback questionnaires at the end of the course.

Feedback is elicited on the instructor's course management and planning, preparedness for class sessions, communication ability, teaching skills, and interaction with the students, evaluation of exams and assignments, and personal characteristics.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Peer observation of in-class teaching is done periodically to evaluate those aspects of teaching that cannot be provided by the students such as instructor's content knowledge, delivery, and teaching methods.
- As part of faculty self-assessment, course instructors are requested to prepare the faculty activity report, and also display their teaching objectives, activities, accomplishments, and failures.

3. Processes for Improvement of Teaching

- Collaborate with international universities of repute and adopt the best teaching and learning practices.
- Peer review of teaching materials can be done to rate the quality of the course syllabus, instructional plans, texts, reading assignments, handouts, homework, and tests/projects.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The Deanship of Quality and Academic Development reviews various procedures of the department for quality assurance, and monitors the progress of program accreditation.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The Deanship of Quality and Academic Development, after careful analysis of all the feedbacks, submits its suggestions and recommendations to the Quality Committee of the

department. Course reports and recommendations of the instructors are also taken into consideration.

- Based on the reports and recommendations, the curriculum committee places its suggestions and modifications for the program or course to the department council for approval. After approval, the department chair forwards it to the college council for ratification and final approval by the faculty deanship.

Name of Course Instructor: Dr Anand

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department : College of Computer Science / Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 223-CCS-3 Advanced Object Oriented Programming			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course: <u>Dr.Anand Deva Durai C</u>			
5. Level/year at which this course is offered: Level 5/ III year			
6. Pre-requisites for this course (if any): 222-CCS-3– Object Oriented Programming			
7. Co-requisites for this course (if any):			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

This course is intended to demonstrate a deep understanding of various object-oriented design techniques and develop object-oriented applications specifically in Java. The student will be able to develop programming applications with multithreading and inheritance, develop Java graphical user interface and Java applet for internet applications; develop advanced software applications using JDBC and Client/Server technologies.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

Blackboard system is being implemented which is a quick source of E-Learning; students can download ready reference materials. With constant monitoring, problem solving using OOP provides improvements in the course. The practical sessions are designed to provide a complete flavor of Advanced Object Oriented Programming concepts. Assignments and quizzes that could also bring out the analytical skills of the students are planned.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

In this Course on Java Programming, is designed to provide extensive hands-on experience writing, compiling, and executing Java programs. Student will learn to build robust applications that use Java's object-oriented features. Java is known for reliability, maintainability, and ease of development. Its unique architecture enables programmers to develop a single application that can seamlessly run across multiple platforms.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Multi –Threading: Thread Model, Priorities, Synchronization, Thread Class, Runnable Interface, Multiple Threads, Synchronization, Priorities,	3	6
Networking: Basics, Classes and Interfaces, InetAddress, TCP/IP Client & Sever Socket, URL Connection, Datagrams	3	6
JDBC Basics: Components, Layers & Architecture, Establishing a Connection, Create a statement, Execute a query, ResultSet Object, Closing the Connection	3	6
GUI and Event-Driven Programming: Basics, Components, Layout Managers, Menus, Mouse Events	4	8
Applets: Architecture, Applet Initialization and Termination, Overriding update(), display methods, repainting, status window, HTML APPLET Tag	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30			30		60
	Actual	30			15		45
Credit	Planned	2			2		4
	Actual	2			1		3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Write object-oriented structures in solving a given problem	Lectures, discussions	Assignments, Quizzes, Examinations Lab activities
1.2	Recognize API features related to the network, Multi-Threading, Database programming concepts and use of GUI components	Lectures, Laboratory, discussion, Collaborative learning.	Assignments, Quizzes, Examinations Lab activities
2.0	Cognitive Skills		
2.1	Develop the spirit of analysis and logic to solve problems, implement solutions, test and debug them using java language.	Lectures, Laboratory, discussion,	Assignments, Quizzes, Examinations Lab activities

		Collaborative learning.	
2.2	Analyze the usefulness of inheritance and polymorphism paradigms to identify inheritance relationship in any problem statement and implement it.	Lectures, Laboratory, discussion, Collaborative learning.	Assignments, Quizzes, Examinations Lab activities
2.3	Create Multi –Threading applications and develop solutions for networking problems.	Lectures, Laboratory, discussion, Collaborative learning.	Assignments, Quizzes, Examinations Lab activities
2.4	Design and implement simple GUI applications and Java applets	Lectures, Laboratory, discussion, Collaborative learning.	Assignments, Quizzes, Examinations Lab activities
3.0	Interpersonal Skills & Responsibility		
3.1	Interpret the concepts to employ programming knowledge to real life project applications.	Practical problems	Lab activities
3.2			
4.0	Communication, Information Technology, Numerical		
4.1			
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm Examination – I (Theory)	6	10 %
2	Midterm Examination – II (Theory)	12	10 %
3	Assignment and Quiz's – Theory	After Every chapter	10 %
4	Practical Examination	15	10 %
5	Activities - Practical	After Every chapter	10 %
6	Final Examination (Theory)	16	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
2. Office hours (10 hours/Week) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
3. Faculty has to be available in his office during the office hours for academic advice.
4. Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students
5. Refer to the faculty time table.

E Learning Resources

1. List Required Textbooks

1. An Introduction to Object-Oriented Programming with JAVA
– Fifth Edition, Thomas Wu, 2004, McGraw Hill.
2. JAVA : The Complete Reference– Tenth Edition, by Herbert Schildt, 2017
Tata McGraw-Hill Publishing Company Limited.

2. List Essential References Materials (Journals, Reports, etc.)

Ivor Horton's Beginning JAVA 2 JDK 5 Edition, by Ivor Horton, Wiley Publishing, Inc.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

<http://www.lms.kku.edu.sa>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

<http://www.java.com/en/about/oracleacademy.jsp>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms – 03 Number of seats in each class room – 50 Laboratories - 03 Accessories – Data Show Projector
2. Technology resources (AV, data show, Smart Board, software, etc.) Computers are installed with relevant software for ready to use. Internet connection
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Overhead projector Computer for individual students with network connection Internet access

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">Confidential completion of standard course evaluation questionnaire. Group discussion with small groups of students.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department <ul style="list-style-type: none">Student attendance is closely monitored. Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc.
3. Processes for Improvement of Teaching Workshops on teaching methods, review of recommended teaching strategies.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Check marking of a sample of examination papers or assignment tasks

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Revising the course in the next semester by assessing the feedback forms, completion of the course and understanding of the subject by students.

Name of Course Instructor: __Dr Mouna _____

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Data structure & Algorithms, 231--CCS-4			
2. Credit hours: 4			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Science			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 5/ Third Year			
6. Pre-requisites for this course (if any): 222--CCS-4, Object Oriented Programming			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?

The study of Algorithms & data structures, a fundamental component of a computer science education, serves as the foundation upon which many other computer science fields are built. The objective of this course is to give students a through introduction to computer data structures and algorithms in the context of object-oriented programming. It is essential for students to gain a good knowledge of algorithms and data structures in order to be competent computer programmers. This course addresses various data structures and techniques for algorithm design and analysis. It covers basic data structures such as lists, stacks, queues, trees & graphs within an Object paradigm. This course also addresses other topics such as complexity analysis, recursive algorithms, searching & sorting algorithms and Hashing. The focus of the course is to develop skills and knowledge in a students who wish to do work in design, implementation, testing, or maintenance of virtually any software system. The Students after completing this course is equipped with the necessary knowledge to perform the above mentioned work, i.e., design, implementation, testing, or maintenance of virtually any software system.

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

1. The course lecture notes and sample exercises are available online
2. The examples and exercises are revised
3. Focused to analysis the real time problem such as Banking, Automobile , Reservation , telecom
4. Home assignments are hosted on the LMS
5. E-Books are hosted for the students references

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course develops the student's understanding and abilities when using advanced programming concepts and techniques in a wide variety of computer-science and real world problems, with the aim of achieving an efficient implementation for solving a given problem. Thereby the course enhances the programming skills of the students. Data Structures (Stacks, queues, Lists, Graph and trees),

complexity analysis, recursive algorithms, searching & sorting algorithms and Hashing are described as abstract data types with their methods by training extensive examples and applications

Topic	Week	Contact hours
Course Overview: Data structure, Types of data structures, Arrays and Vectors in JAVA, Abstract data types	1	3
Complexity Analysis : Algorithm and its properties, Computational and Asymptotic Complexity, Complexity Notations – Big-Omega(Ω) and Theta(Θ) Notations, The Best, Average and Worst Case Analysis.	1	3
Linked Lists: Introduction , Singly Linked List and its basics operations – Insertion, Deletion and Search, Circular Linked Lists, Case Study	2	6
Stacks: Introduction to Stack, Basic Operations on Stacks – clear, push and pop. Applications of Stack , Case Study	1	3
Queues: Introduction to Queue, Basic operations on Queue – clear, enqueue, dequeue. Applications of Queue, Priority Queues.	1	3
Searching & Sorting: Sequential and Binary Search, Sorting Techniques, Insertion Sort, Selection Sort, Bubble Sort, Quick Sort and Merge Sort, Case Study	1	3
Recursion: Recursive Definitions, Rules of writing recursive Programs, Tail Recursion, Non- Tail Recursion, Excessive Recursion, Backtracking, 4 & 8 Queen's Problem	1	3
Binary Trees: Trees, Binary Trees, Binary Search Trees, Implementing binary trees, Searching Binary Search trees, Tree Traversal (Breadth-First Search Traversal, Depth-First Search Traversal), Insertion, Deletion,	2	6
Multi-way Trees The family of B-Trees, B-Tree Insertion and Deletion.	1	3

Graphs: Graph Terminology and Definitions, Graph representation, Traversals, Shortest path, Spanning trees, Kruskal's Algorithm, Connectivity	2	6
Hashing : Hashing Functions, Collision functions, Open & Closed Hashing, Linear probing, Quadratic probing, Double Hashing, Chaining	2	6

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45		30			75
	Actual	45		15			60
Credit	Planned	3		2			5
	Actual	3		1			4

3. Additional private study/learning hours expected for students per week.

6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
A	Knowledge		

1.1	Describe the concepts of data structures and algorithms with its relevant types.	Lectures	Quizzes Exams
1.2	Describe the outline of linear and Non-linear structures and recognize the usage of various algorithms	Lectures Discussions	Quizzes and Exams
2.0	Cognitive Skills		
2.1	Analyze, design and develop the algorithms for various data structures like Stacks, Queues, and Linked List.	Lectures Discussions Laboratory	Exams Assignments Lab Activities
2.2	Compare and evaluate the complexity of algorithms for linear Data Structures	Lectures Discussions Laboratory	Quizzes Assignments and Exams
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate logical and technical skills required during application development	Lab Exercise	Quizzes, Exams and Lab Activities
4.0	Communication, Information Technology, Numerical		
4.1	Illustrate different ideas of applications in data structure and algorithms	Lectures and lab sessions	Lab Activities Exams
5.0	Psychomotor		
	Not Applicable		

5. Schedule of Assessment Tasks for Students During the Semester

Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
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1	Assignment	3,6 and 9	6 %
2	Quiz	4 and 10	4%
3	Mid Term Exam I	7	10 %
4	Mid Term Exam II	14	10 %
5	Lab Activities	All	10%
6	Lab Exam	15	10%
7	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks

Adam Drozdek, Data Structures and Algorithms in Java, 4th edition, Cengage Learning Asia, 2013

2. List Essential References Materials (Journals, Reports, etc.)

Transactions on Algorithms: ACM

Duane A Bailey, JAVA Structures, Williams College, September 2007

Michael S.Jenkins, Abstract Data types, McGRAW-HILL, 1998

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms are already provided but it should be fully equipped with projectors.

2. Technology resources (AV, data show, Smart Board, software, etc.)

High configuration computers with LCD projector

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Online internet facility for accessing study materials

Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Distribution of feedback forms at the end of semester to students.
- Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.
- Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.
- Student course evaluation at the conclusion of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures.

- Frequently conducting departmental meetings.
- Student attendance is closely monitored
- Student feedback is considered for teaching evaluation
- Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation

3. Processes for Improvement of Teaching

- Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.
- Training of faculty members on different software's/hardware is facilitated.
- Blackboard E-Learning system is introduced.
- Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program. Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Talal

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature:

Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Computer Organization & Architecture, 251--CCS-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Science			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 4/ Second Year			
6. Pre-requisites for this course (if any): None			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

This course helps the students to understand the basic operation of computing hardware, how it works, how it interfaces to software, and the art of selecting and interconnecting hardware components to create a computer that meets functional, performance, and cost goals. This course also introduces to the concept of logic design and other basic building blocks used in digital systems, in particular digital computers.

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

6. Revision of course content to incorporate latest developments in the area of subject
7. Modifications and revisions in lecture notes, exercises, examples
8. E-books will be made available to students through LMS blackboard

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course is designed to familiarize the students with concepts of computer architecture and functionality. The course gives the knowledge of different types of data may be represented inside a computer, how the various computer components process the data, and how the operating system and the hardware cooperate to make computer operation possible. The course includes a presentation and discussion of generic principles of computer architecture and digital logic.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours

<ul style="list-style-type: none"> • Introduction to digital systems • Number systems (Binary) • Number conversion • Octal/ hexadecimal number representation 	1	2
<ul style="list-style-type: none"> • Negative number representation • Unsigned/ signed addition and subtraction • Multiplication and Addition in various number presentation • BCD, Addition in BCD 	1	2
<ul style="list-style-type: none"> • Logic Algebra • Theorems of logic algebra • Digital Logic gates and Circuits • Truth tables • Synthesis using AND, OR, NOR , EX-OR, EX- NOR and NOT gates 	1	2
<ul style="list-style-type: none"> • Basic Structure of Computers • Functional Units • Basic Operational Concepts • Bus Structures 	1	2
<ul style="list-style-type: none"> • Instruction Set Architecture • Instruction formats • Addressing modes • Assembly Language • MIPS instructions • instruction type 	2	4
<ul style="list-style-type: none"> • Instruction cycle • Hardwired control • Micro Programmed Control • Basic CPU function • Timing & Control • Micro operations • Performance of CPU. 	3	6
<ul style="list-style-type: none"> • Types of Memory • Semiconductor RAM memories • ROMs, Cache Memory, Virtual Memories, Secondary Storage. • Direct Memory Access and its Operation 	2	4
<ul style="list-style-type: none"> • I/O Module Function • Interrupt Driven I/O Basic Operation • Data Transfer Techniques • Interface Circuits 	2	4
<ul style="list-style-type: none"> • Parallel Computers • Pipelining Concepts • Characteristics of RISC and CISC machines 	2	4

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	30				60
	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.	6
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the fundamentals of Computer Organizational Concepts	Interactive Lectures & Lab	Assignments Quizzes, Exam Lab Activity
1.2	Define different number systems, digital logic gates and Boolean algebra.		
2.0	Cognitive Skills		
2.1	Analyze the hardware and instruction set requirements for a given task	Interactive Lectures, Lab Activities, Brainstorming	Assignments Quizzes, Exam Lab Activity
2.2	Justify the hardware and instruction set to design a particular machine		

2.3	Analyze the scope for performance improvement		
3.0	Interpersonal Skills & Responsibility		
3.1	Use kits for programming digital circuit design	Lab Activities	Lab Activities
3.2	Convert numbers from one base to another, such as from decimal to binary, octal, hexadecimal.	Interactive Lectures, and Brainstorming	Assignments Quizzes, Exam
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate machine organization solutions to problems	Discussion	Assignments Quizzes, Exam Lab Activity
4.2	Demonstrate different number systems and their inter conversion.	Lectures, Case Studies.	Assignments Quizzes, Exam Lab Activity
5.0	Psychomotor		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	3,6 and 9	6 %
2	Quiz	4 and 10	4%
3	Mid Term Exam I	7	10 %
4	Mid Term Exam II	14	10 %
5	Lab Activities	All	10%
6	Lab Exam	15	10%
7	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks

David A. Patterson and John L. Hennessy, Computer Organization and Design - Hardware / Software, Fifth Edition, MK Morgan Kaufmann, 2014, ISBN 978-0-12-407726-3

"Logic and Computer Design Fundamentals", M. Morris Mano & Charles R. Kime, ISBN 0-13-376063-4, Prentice Hall, 2015.

2. List Essential References Materials (Journals, Reports, etc.)

- **"Digital Design", Mano, M. Morris. 3rd edition, ISBN 0-13-062121-8, Prentice-Hall, 2002.**
- **"Fundamentals of logic Design". Thomson Learning. 5th edition, Brooks/Cole, 2004.**
- **"FUNDAMENTALS OF DIGITAL CIRCUITS", A. ANAND KUMAR, 2nd edition, ISBN 9788120336797, PHI Learning, 2009.**
- **Morris Mano, Computer System Architecture, 3rd Edition, Pearson Education, 2007. ISBN 13: 9788131700709.**
- **Computer Organization and Design, H. Patterson, Katey Birtcher, Elseveir, 2018, ISBN: 978-0-12-812275-4.**
- **Computer Architecture and Organization, John P. Hayes, MCGraw Hill, 1998. ISBN 9780070273559**

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms are already provided but it should be fully equipped with projectors.
2. Technology resources (AV, data show, Smart Board, software, etc.) High configuration computers with LCD projector
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Online internet facility for accessing study materials Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">• Distribution of feedback forms at the end of semester to students.• Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.• Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.• Student course evaluation at the conclusion of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures. <ul style="list-style-type: none">• Frequently conducting departmental meetings.• Student attendance is closely monitored• Student feedback is considered for teaching evaluation

- Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation

3. Processes for Improvement of Teaching

- Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.
- Training of faculty members on different software's/hardware is facilitated.
- Blackboard E-Learning system is introduced.
- Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program. Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Jamel

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Image Processing, 312--CCS-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Sciences			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 5/ Third Year			
6. Pre-requisites for this course (if any):			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

Digital image processing is ubiquitous, with applications ranging from television to tomography, from photography to printing, from robotics to remote sensing. This course will provide an introduction to the basic techniques of digital image processing. The student will learn modern approaches to image acquisition and display, image enhancement, image compression and image analysis. On successful completion of this course, students should be able to:

- Understand how computers can process digital images.
- Understand the processes of two-dimensional data together with any perceived similarity with the human vision system.
- Learn the theoretical foundations of modern image processing.
- Apply theory to practical image processing problems

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- 9. The course lecture notes and sample exercises are available online
- 10. The examples and exercises are revised
- 11. Home assignments are hosted on the LMS
- 12. E-Books are hosted for the students references

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course is designed to provide the students with an overview of Image processing principles. The course begins with an introduction to image processing and its applications, including the fundamental concepts of visual perception and image acquisition, the basic techniques of image manipulation, segmentation and coding, and a preliminary understanding of pattern recognition and computer vision application.

Topic	Week	Contact hours
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Introduction: What is Digital Image Processing?, The Origins of Digital Image Processing, Examples of Fields that Use Digital Image Processing, Fundamental Steps in Digital Image Processing, Components of an Image Processing System	1	2
Digital Image Fundamentals: Image Sensing and Acquisition, Image Sampling and Quantization, Some Basic Relationships Between Pixels, Introduction to the Basic Mathematical Tools Used in Digital Image Processing	2	4
Intensity Transformations and Spatial Filtering: Some Basic Intensity Transformation Functions, Histogram Processing, Fundamentals of Spatial Filtering, Smoothing (Lowpass) Spatial Filters, Sharpening (Highpass) Spatial Filters, Highpass, Bandreject, and Bandpass Filters from Lowpass Filters, Combining Spatial Enhancement Methods	2	4
Filtering in the Frequency Domain: Preliminary Concepts, Sampling and the Fourier Transform of Sampled Functions, The Discrete Fourier Transform of One Variable, Extensions to Functions of Two Variables, Some Properties of the 2-D DFT and IDFT, The Basics of Filtering in the Frequency Domain, Image Smoothing Using Lowpass Frequency Domain Filters, Image Sharpening Using Highpass Filters, Selective Filtering, The Fast Fourier Transform	2	4
Color Image Processing: Color Models, Pseudocolor Image Processing, Basics of Full-Color Image Processing, Color Transformations, Color Image Smoothing and Sharpening, Using Color in Image Segmentation, Noise in Color Images, Color Image Compression	2	4
Image Compression and Watermarking: Fundamentals, Huffman Coding, Golomb Coding, Arithmetic Coding, LZW Coding, Run-length Coding, Symbol-based Coding, Bit-plane Coding, Block	2	4

Transform Coding, Predictive Coding, Wavelet Coding, Digital Image Watermarking		
Morphological Image Processing: Preliminaries, Erosion and Dilation, Opening and Closing, The Hit-or-Miss Transform, Some Basic Morphological Algorithms, Morphological Reconstruction, Summary of Morphological Operations on Binary Images, Grayscale Morphology	2	4
Image Segmentation: Edge Detection, Thresholding, and Region Detection: Point, Line, and Edge Detection, Thresholding, Region Segmentation Using Clustering and Superpixels, Region Segmentation Using Graph Cuts, Segmentation Using Morphological Watersheds, The Use of Motion in Segmentation	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment
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			Methods
A	Knowledge		
1.1	Define fundamental concepts of Digital Image Processing.	Introductory lectures and lab software (MATLAB) demos	Exams, Assignments
1.2	Recognize various Image Processing algorithms	Class room lectures, exercises, lab Activities	Lab Activities, Quizzes
2.0	Cognitive Skills		
2.1	Develop image processing programs using MATLAB.	Class room lectures,	Exams, Assignments
2.2	Analyze the local and global impact of Image Processing techniques	Discussion, lab activities	Lab Activities, Quizzes
2.3	Analyze Image Processing algorithms for application to real world problems.		
3.0	Interpersonal Skills & Responsibility		
3.1	Implement, basic applications of Image Processing using MATLAB	Class room lectures,	Exams, Assignments
3.2	Demonstrate Image Processing applications using MATLAB	Discussion, lab activities	Lab Activities, Quizzes
3.3	Classifying Image enhancing techniques including image filtering using MATLAB		
4.0	Communication, Information Technology, Numerical		
4.1	Illustrate the solution phases for problems related to image processing	Case studies projects	Group presentations Group reports
5.0	Psychomotor		

Not Applicable

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	3,6 and 9	6 %
2	Quiz	4 and 10	4%
3	Mid Term Exam I	7	10 %
4	Mid Term Exam II	14	10 %
5	Lab Activities	All	10%
6	Lab Exam	15	10%
7	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks Digital Image Processing by Rafael C. Gonzalez, Richard E. Woods, Pearson; 4 edition, 2017
2. List Essential References Materials (Journals, Reports, etc.) Anil K. Jain (1989). Fundamentals of Digital Image Processing, Prentice Hall ISBN-10: 0133361659, ISBN-13: 9780133361650 Sonka-Hlavac-Boyle (2007). Image Processing, Analysis and Machine Vision, 3rd edition
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms are already provided but it should be fully equipped with projectors.
2. Technology resources (AV, data show, Smart Board, software, etc.) High configuration computers with LCD projector
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Online internet facility for accessing study materials Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Distribution of feedback forms at the end of semester to students.
- Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.
- Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.
- Student course evaluation at the conclusion of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures.

- Frequently conducting departmental meetings.
- Student attendance is closely monitored
- Student feedback is considered for teaching evaluation
- Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation

3. Processes for Improvement of Teaching

- Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.
- Training of faculty members on different software's/hardware is facilitated.
- Blackboard E-Learning system is introduced.
- Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program.

Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Gran

Signature: _____ Date Specification Completed: 24/02/2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم
Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Game Development, 313--CCS-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Science			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 6/ Third Year			
6. Pre-requisites for this course (if any): 222--CCS-4, Object Oriented Programming			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

This course teaches students to develop a game based on the capabilities of computer technology and the needs of human factors.

The Students after completing this course will be able to

- Demonstrate an understanding of concepts and techniques of game development
- Apply these concepts and techniques in the design and implementation of games
- Implement a non-trivial game using industry-standard techniques.
- Be aware of different styles of interaction with a software system.
- To develop interactive games

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

13. Revision of course content to incorporate latest developments in the area of subject
14. Modifications and revisions in lecture notes, exercises, examples
15. E-books will be made available to students through LMS blackboard

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course focus on designing game levels for the next generation of game engines. The Course will help in the process of designing compelling worlds that immerse the player in interactive environments created from the imagination.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours

<p>History & Background: What Is a Level? Setting Goals Risk-Reward Puzzles The Development Team Level Designer's Role Artist Scientist Role-Playing Games Massively Multiplayer Online Role-Playing Games Action Games Sandbox Games Linear Games Strategy Simulation Sports</p>	2	4
<p>Conceptualization: The Mind Imagination Knowledge Observation Culture Story Elements Backstory Setting The Conflict Reference Material Photography The Internet Style Look & Feel Experimentation Unity Concept Art Thumbnails Silhouette Concept Modeling Speed Modeling Texture Play</p>	3	6
<p>Blocking In: Starting from Scratch The Unreal Engine The Grid Broad Strokes Theory Modular Construction Pivots Blocking Details Creating Spaces Exteriors</p>	2	4

<p>Environmental Art: Texturing Story Material Construction Terrain Modeling Low-Polygon Modeling Unwrapping</p>	2	4
<p>Asset Creation: High-Priority Props Support Trees Bridges Structures Walls Polish Props Vines Boulders Foliage</p>	2	4
<p>Lighting & Effects: Types of Lights Directional Point Skylight Spotlight Setting the Mood Attributes Pools of Light Dramatic Lighting Effects Light-mapping Secondary UV Channels Radiosity Ambient Occlusion Fog Density Brightness Color Particles Emitter Properties Atmospheric Effects</p>	2	4

Refinement Post Process Effects Bloom Depth of Field Motion Blur Audio Adaptive & Loop-Based Music Sound Effects Kismet Scripting Scripted Sequences Triggers Matinee Putting It All Together Being a Level Designer The Process Career	2	4
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2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		15			45
	Actual						
Credit	Planned	2		1			3
	Actual						

3. Additional private study/learning hours expected for students per week.

2 - 4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
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1.0	Knowledge		
1.1	Describe the importance of Conceptualization in game development	Interactive Lectures, Laboratory Activities	Assignments, Quiz, Laboratory activities, Exam
1.2	Discuss the various Refinement process		
2.0	Cognitive Skills		
2.1	Recognize the underlying principles guiding the relevant visual, audio, interactive and narrative aesthetics of a particular genre of work, design movement or designer	Interactive Lectures, Laboratory and Brainstorming	Assignments, Quiz, Laboratory activities, Exam
2.2	Synthesize trends, theories and movements in the development of new ideas		
3.0	Interpersonal Skills & Responsibility		
3.1	Research, organize, evaluate and document gathered information for presentational purpose.	Laboratory Activities and Brainstorming	Assignments, Quiz, Laboratory activities, Exam
3.2	Express oneself clearly and appropriately during small group and team collaborations		
4.0	Communication, Information Technology, Numerical		
4.1	Write effectively in a style that is well organized, easy to follow and supported by sufficient and appropriate evidence	Encourage students to manage time in Laboratories, Exam, Quiz and Assignment	Assignments, Quiz, Laboratory activities, Exam
4.2	Convey ideas, information and intentions effectively and in a manner that is appropriate to the topic, situation and audience during presentation and critique		
5.0	Psychomotor		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Theory Assignments and class activates including quizzes and homework's	Assignment will be given After 2 weeks and quiz after 4 th week 6	10%
2	Mid Exam I		10%
3	Mid Exam II	12	10%
4	Lab Activities	1- 14	10%
5	Lab Exam	15	10%
6	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks

Game Development Essentials: Game Level Design, by Jeannie Novak, Travis Castillo, Cengage Learning; 1 edition, 2008

2. List Essential References Materials (Journals, Reports, etc.)

Game Development Essentials: An Introduction, by Jeannie Novak, Cengage Learning; 3 edition, 2011

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms are already provided but it should be fully equipped with projectors.

2. Technology resources (AV, data show, Smart Board, software, etc.)

High configuration computers with LCD projector

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Online internet facility for accessing study materials

Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Distribution of feedback forms at the end of semester to students.
- Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.
- Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.
- Student course evaluation at the conclusion of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures.

- Frequently conducting departmental meetings.
- Student attendance is closely monitored
- Student feedback is considered for teaching evaluation
- Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation

3. Processes for Improvement of Teaching

- Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.
- Training of faculty members on different softwares/hardware is facilitated.
- Blackboard E-Learning system is introduced.
- Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program. Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Harish

Signature: _____ Date Specification Completed: 24/02/2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department : College of Computer Science / Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 314-CCS-3 Operations Research			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course: <u>Dr. Anand Deva Durai C</u>			
5. Level/year at which this course is offered: Level 6/ III year			
6. Pre-requisites for this course (if any): 231-CCS-3 Data Structures and Algorithms			
7. Co-requisites for this course (if any):			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

Operations research (OR) have many applications in science, engineering, economics, and industry. OR the relevant factors of an issue and uses mathematical techniques to arrive at an optimal decision. It is important because of it uses to solve complex problems under uncertainty.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course creates the ability to solve OR problems that is crucial for both researchers and practitioners. Being able to solve the real life problems and obtaining the right solution requires understanding and modeling the problem correctly and applying appropriate optimization tools and skills to solve the mathematical model. The goal of this course is to enable the learners to formulate, analyze, and solve mathematical models that represent real-world problems. In particular, problems related to linear programming, network models, integer programs, nonlinear programs, dynamic programming and game theory.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction: Modeling, Seven Step Model Building, Linear Algebra	1	2

Linear Programming: Two variable Linear Programming, work scheduling Problem, Capital Budgeting Problem, Using Linear Programming to Solve Multiperiod Decision Problems: An Inventory Model	2	4
The simplex Algorithm and Goal Programming: Simplex Algorithm , Using the Simplex Algorithm to Solve , Minimization Problems, Alternative Optimal Solutions, Unbounded LPs, The LINDO Computer Package, The Big M Method, The Two-Phase Simplex Method, Karmarkar's Method for Solving LPs	2	4
Transportation and Assignment Problems: Formulating, Finding Basic Feasible Solutions, The Transportation Simplex Method, Sensitivity Analysis for Transportation Problems, Assignment Problems	2	4
Network Models: Shortest-Path Problems, Maximum-Flow Problems, CPM and PERT, Minimum-Cost Network Flow Problems, Minimum Spanning Tree Problems, The Network Simplex Method	2	4
Integer Programming: Formulating Integer Programming Problems, The Branch-and-Bound Method for Solving Pure Integer Programming Problems, The Branch-and-Bound Method for Solving Mixed Integer Programming Problems, Solving Knapsack Problems by the Branch-and-Bound Method, Solving Combinatorial Optimization Problems by the Branch-and-Bound Method	2	4
Game Theory : Two-Person Zero-Sum and constant Sum Games, Two-Person Zero-Sum Games: Randomized Strategies, Domination, and Graphical Solution, Linear Programming and Zero-Sum Games, Two-Person Nonconstant-Sum Games, Introduction to n-Person Game Theory, The Core of an n-Person Game	2	4
Deterministic Dynamic Programming: Two Puzzles, Network Problem, An Inventory Problem, Resource-Allocation Problems, Equipment-Replacement Problems, Formulating Dynamic Programming Recursions, The Wagner–Whitin Algorithm and the Silver–Meal Heuristic	2	4

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory/	Practical	Other:	Total
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				Studio			
Contact	Planned	30	30				60
Hours	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Understand the theoretical workings of the simplex method for linear programming	Class room Lecture Comprehensive study	Quizzes Exams
1.2	Identify application domains for integer programming and game theory	Class room Lecture	Quizzes Exams

		Comprehensive study	
2.0	Cognitive Skills		
2.1	Solve specialized linear programming problems like the transportation and assignment problems	Class room Lectures Tutorial Sessions Demonstrations	Exams Assignments Tutorial Activities
2.2	Recognize patterns in real-world decision problems that can be modeled using dynamic programming	Class room Lectures Tutorial Sessions Demonstrations	Tutorial Activities Exams
2.3			
2.4			
3.0	Interpersonal Skills & Responsibility		
3.1	Model a dynamic system and compute important performance measures	Tutorial Sessions	Group Projects Tutorial Activities
3.2			
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate the applicability of various programming techniques for optimal solutions.	Tutorial Sessions	Group Projects Presentations Tutorial Activities
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm Examination – I (Theory)	6	15 %
2	Midterm Examination – II (Theory)	12	15 %

3	Assignment and Quiz's – Theory	After Every chapter	10 %
5	Activities - Tutorial	After Every chapter	10 %
6	Final Examination (Theory)	16	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
2. Office hours (10 hours/Week) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
3. Faculty has to be available in his office during the office hours for academic advice.
4. Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students
5. Refer to the faculty time table.

E Learning Resources

1. List Required Textbooks
“Operations Research – Applications and Algorithms” by Wayne L. Winston, Fourth Edition, 2004, Cengage Learning
2. List Essential References Materials (Journals, Reports, etc.)
<https://www.journals.elsevier.com/european-journal-of-operational-research>
<https://www.journals.elsevier.com/operations-research-perspectives>
<https://www.inderscience.com/jhome.php?jcode=ijor>

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.scirp.org

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

<http://www.orcomplete.com/internet/enesbilgin/open-courses-on-operations-research>

<http://www.learnaboutor.co.uk/>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms – 03

Number of seats in each class room – 50

Laboratories - 03

Accessories – Data Show Projector

2. Technology resources (AV, data show, Smart Board, software, etc.)

Computers are installed with relevant software for ready to use.

Internet connection

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Overhead projector

Computer for individual students with network connection

Internet access

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Confidential completion of standard course evaluation questionnaire.
Group discussion with small groups of students.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Student attendance is closely monitored.
Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc.

3. Processes for Improvement of Teaching

Workshops on teaching methods, review of recommended teaching strategies.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Check marking of a sample of examination papers or assignment tasks

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Revising the course in the next semester by assessing the feedback forms, completion of the course and understanding of the subject by students.

Name of Course Instructor: __Dr Samirah__

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



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Education Evaluation Commission

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National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Programming with Python, 324--CCS-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Sciences			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 6/ Third Year			
6. Pre-requisites for this course (if any): 222--CCS-4, Object Oriented Programming			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

Software plays an important role in many domains. Very often, scientists are writing or adapting computer programs to process or analyze their data and present their results in a suitable format. This course helps to build the understanding of the underlying principles and equip future academics with basic skills to create computer programs for small-scale use. The programming language Python serves a broad application domain ranging from short scripts to full-blown software systems (e.g. Google uses Python). The course gives an introduction to libraries of available components, and how to use these for building your own software. On successful completion of this course students should be able to:

- Effectively conduct program designs including modularity, encapsulation and abstraction;
- Differentiate between available data types and demonstrate their appropriate problem application;
- Apply available libraries to solve problems;
- Identify and apply the appropriate technical processes and problem-solving skills to successfully process a variety of data sets.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

16. Revision of course content to incorporate latest developments in the area of subject
17. Modifications and revisions in lecture notes, exercises, examples
18. E-books will be made available to students through LMS blackboard

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course covers fundamental problem solving concepts, tools and methodologies. Students will learn how to select an appropriate python data type and apply the most appropriate technical processes for a given problem. They will also learn how to develop python modular code which

conforms to the basic principles and required practices of developing an application software with Python language, as Python language has an extensive application libraries and its effectiveness and popularity as a modern programming language .

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
<ul style="list-style-type: none"> • Introduction to data analysis tools in Python. 	1	2
<ul style="list-style-type: none"> • Data structures with Pandas 	2	4
<ul style="list-style-type: none"> • Data Loading, Storage, and File Formats <ul style="list-style-type: none"> • Reading and Writing Data in Text Format • Binary Data Formats • Interacting with Web APIs • Interacting with Databases 	2	4
<ul style="list-style-type: none"> • Data Cleaning and Preparation <ul style="list-style-type: none"> • Handling Missing Data • Data Transformation • String Manipulation 	2	4
<ul style="list-style-type: none"> • Data Wrangling: Join, Combine, and Reshape <ul style="list-style-type: none"> • Hierarchical Indexing • Combining and Merging Datasets • Reshaping and Pivoting 	2	4
<ul style="list-style-type: none"> • Plotting and Visualization <ul style="list-style-type: none"> • A Brief matplotlib API Primer • Plotting with pandas and seaborn • Other Python Visualization Tools 	2	4
<ul style="list-style-type: none"> • Data Aggregation and Group Operations <ul style="list-style-type: none"> • GroupBy Mechanics • Data Aggregation • Apply: General split-apply-combine • Pivot Tables and Cross-Tabulation 	2	4
<ul style="list-style-type: none"> • Time Series <ul style="list-style-type: none"> • Date and Time Data Types and Tools • Time Series Basics • Date Ranges, Frequencies, and Shifting • Time Zone Handling • Periods and Period Arithmetic • Resampling and Frequency Conversion • Moving Window Functions 	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week. 6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	State what a given program (in Python) does	Interactive Lectures & Lab Activities	Assignments Quizzes, Exam Lab Activity
1.2	Recognize the use of library software for (e.g.) building a graphical user interface, web application or mathematical software.		
2.0	Cognitive Skills		
2.1	Demonstrate the given algorithm as a computer program (in Python)	Interactive Lectures, Lab Activities,	Assignments Quizzes, Exam

2.2	Identify and repair coding errors in a program	Brainstorming	Lab Activity
3.0	Interpersonal Skills & Responsibility		
3.1	Adapt and combine standard algorithms to solve a given problem	Lab Activities	Lab Activities
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate the use of standard programming constructs: repetition, selection, functions, composition, modules, aggregated data (arrays, lists, etc.) for solving the problems	Discussion	Assignments Quizzes, Exam Lab Activity
5.0	Psychomotor		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	3,6 and 9	6 %
2	Quiz	4 and 10	4%
3	Mid Term Exam I	7	10 %
4	Mid Term Exam II	14	10 %
5	Lab Activities	All	10%
6	Lab Exam	15	10%
7	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks

Python for Data Analysis, 2nd Edition, by Wes McKinney, O'Reilly Media, Inc., 2017

2. List Essential References Materials (Journals, Reports, etc.)

Hands-On Machine Learning with Scikit-Learn and TensorFlow, by Aurélien Géron, O'Reilly Media, Inc., 2017

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms are already provided but it should be fully equipped with projectors.

2. Technology resources (AV, data show, Smart Board, software, etc.)

High configuration computers with LCD projector

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Online internet facility for accessing study materials

Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Distribution of feedback forms at the end of semester to students.
- Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.
- Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.
- Student course evaluation at the conclusion of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures.

- Frequently conducting departmental meetings.
- Student attendance is closely monitored
- Student feedback is considered for teaching evaluation
- Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation

3. Processes for Improvement of Teaching

- Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.
- Training of faculty members on different software's/hardware is facilitated.
- Blackboard E-Learning system is introduced.
- Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program. Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Abir

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Principles of Software Engineering

Course Specifications

Institution: King Khalid University	Date: February 24, 2019
College/Department : Computer Science	

A. Course Identification and General Information

1. Course title and code: 341--CCS-3, Principles of Software Engineering			
2. Credit hours: 3Hours (2 Lecture + 1 Practical)			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course. Dr. Yessine			
5. Level/year at which this course is offered: Level			
6. Pre-requisites for this course (if any): 222--CCS-3, Object Oriented Programming			
7. Co-requisites for this course (if any): Graduation Project			
8. Location if not on main campus: CS program branches			
9. Mode of Instruction (mark all that apply):			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. Blended (Traditional and Online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-Learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments: The assessment part of this course i.e., quizzes / assignments are conducted through LMS: The BlackBoard portal of KKU's IT System

B Objectives

1. What is the main purpose for this course?

The aim of this course is to learn:

- The basic concepts of software engineering, and provide a framework for understanding the software engineering production processes.
- The idea of software process and process models.
- The software system requirements and the activities involved in the requirements engineering process.
- The agile development methodology
- The System models that are designed in the software life cycle.

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or Web based reference material, changes in content as a result of new research in the field)

- The course is supported with the Learning Management System (Blackboard).
- There will be a discussion board on each unit of the course, where students can share and discuss their ideas, and also clarify doubts. Students must participate in graded discussion board to get marks.
- Class room attendance and Blackboard activities will also be closely monitored.
- To assess the students, there will be assignment, quiz and graded discussion board at the end of each unit.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

This course covers the main knowledge areas of software engineering such as basics of software development, software processes, requirement engineering and system modeling. Agile method, plan-driven and extreme programming processes are presented. UML models and some case studies will be also discussed. The course describes also some methods for specifying software requirements.

1. Topics to be covered

List of topics to be delivered in the theory lecture classes:	No. of Weeks	Contact Hours

<p>Introduction to Software Engineering:</p> <ul style="list-style-type: none"> Professional Software Development Basics of Software Engineering Software Engineering Ethics Case Study 	2	4
<p>Software Process:</p> <ul style="list-style-type: none"> Software Process Models Process Activities Coping with change Rational Unified Process (RUP) 	3	6
<p>Agile Software Development</p> <ul style="list-style-type: none"> Agile Method Plan-driven and Agile development Extreme Programming Agile Project Management 	3	6
<p>Requirements Engineering</p> <ul style="list-style-type: none"> Functional and Non-Functional Requirements Software Requirement Document Requirements Specification Requirements Engineering Processes 	2	4
<p>System Modeling</p> <ul style="list-style-type: none"> Context models Interaction models Structural models Behavioral models Model Driven Engineering Case Studies 	4	8
<p>Group Project Presentation</p>	1	2

Syllabus and schedule for the laboratory tutorial activities:	Week#
1. Introduction to UML	1-2
2. Introduction to UML Software: Visual Paradigm.	
3. Use-Case Diagram: System boundary, Use-Case function (goal), Actor, Relationships.	3-4

<p>a. Different scenarios for a Use-Case.</p> <p>b. Automatic Teller Machine (ATM): Withdraw Cash, Balance Enquiry, Miscellaneous services.</p> <p>c. E-mail Service: Send Message, Receive Message.</p>	
<p>4. Class Diagram: Classes and Objects, Data Attributes, and Methods.</p> <p>a. Relationships between classes – Association: Aggregation and Composition, Inheritance, and Dependency.</p> <p>b. Library Management System in a University:</p> <p>c. ATM System: Classes for ATM, Customer, Bank; Class relationships.</p>	5-7
<p>5. Sequence Diagram: Objects, Lifelines, Messages</p> <p>a. Different types of messages - Asynchronous messages, Reply messages, Self-messages; Message Sequence Paths; Activation.</p> <p>b. Library Management System.</p> <p>c. Flight Reservation System: Ticket Booking, Cancellation, and Modification.</p>	9-10
<p>6. Activity Diagram: Action, Flow, Decision, Fork, Join, Swim-lanes, Parallel Activities.</p> <p>a. Purchase of commodities in a retail shop using ATM Card in a POS machine.</p> <p>b. Registration of students for semester courses in a University.</p>	11-12
<p>7. State Diagram: States – Initial, Final, and Intermediate states, State transition.</p> <p>a. Internal activities, events/triggers, guard expressions, actions.</p> <p>Telephone (landline): Realize the different states of the handset: Idle, Lifted (Of hook), Dialing, Ringing, Busy, Connected</p>	13-14
Final lab Exam	15

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact	Planed	30		30			60

Hours	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3
3. Additional private study/learning hours expected for students per week.							4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code#	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	State the main purpose of Software Engineering	Lectures, Class Discussions	Exams, Quizzes, Assignments
1.2	Know the elements and principles of Software Engineering	Lectures	
2.0	Cognitive		
2.1	Compare the different software process models and Select the most appropriate one for a given software project.	Lectures	Exams, Quizzes, Assignments
2.2	Design UML Diagrams	Lectures and Laboratory Activities	Exams, Assignments, Lab Exercises
2.3	Use appropriate case tools for documenting software requirements.	Lectures and Laboratory Activities	Exams, Assignments, Lab Exercises
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate understanding of the ethical and professional responsibilities.	Case Studies	Group Work / Discussion / Project
4.0	Communication, Information Technology, Numerical		
4.1	Illustrate the design of system in both oral and written ways.	Case Studies	Group Work / Discussion / Project
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Theory		
	• Mid-Term Exam-I	6	10%
	• Project	12	10%
	• Assignment and Quizzes	4, 8	10%
2	Practical		
	• Final Lab Exam	14	10%
	• Lab Activities	Weekly	10%
3	Final Examination		50%
4	Total Marks		100%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Office hours (10 hours/Week, Sunday to Thursday, between 9 AM and 3 PM) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
- Students are encouraged to consult the faculty for queries or clarifications related to the lectures, assignments, homework, exercises, and laboratory.
- Faculty has to be available in his office during the office hours for academic advice.
- Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students.

E. Learning Resources

1. List Required Textbooks

Software Engineering, 10th Edition, Sommerville, PEARSON, ISBN-13: 978-0133943030
ISBN-10: 0133943038, 2015

2. List Essential References Materials (Journals, Reports, etc.)

Software Engineering: A Practitioner's Approach, 8th Edition, 2014, by Roger S. Pressman ,
Bruce Maxim (Author), ISBN-13: 978-0078022128 ISBN-10: 9780078022128

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

King Khalid University renders online electronic learning and assessment Web-based applications for the students and faculties. Occasionally, the students are provided with the names of relevant Websites to refer to seek guidance in coursework tasks and studies.

All lecture notes and PowerPoint slides of the class lectures are available to the students on the Blackboard system.

<http://lms.kku.edu.sa/>

<http://www.sei.cmu.edu>

<http://www.agile.csc.ncsu.edu/SEMaterials>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Syllabus with all chapters, assignments, and handouts is made available on the Blackboard for students' reference.

<http://codecourse.sourceforge.net/materials/Software-Engineering-Theory-and-Practice.pdf>

<http://www.rational.com/uml>

<http://www.softeng.uwaterloo.ca>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms and laboratories of appropriate space, ventilation, furniture, electronic appliances and computing equipment are available as per the university's norms. Ratio of computers to students is perfectly 1:1.
2. Technology resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none">- Windows Operating System,- Computers with LAN/WAN facility- Rational Rose and UML Modeling software tools
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list). There is a need to upgrade/renew the projector devices and screens; provision of remote controls or pointed-sticks to faculty members for switching on the projectors; high-speed uninterruptable Wi-Fi Internet access needs to be enabled in classrooms.

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">• Students are required to submit individual feedback questionnaires at the end of the course. Feedback is elicited on the instructor's course management and planning, preparedness for class sessions, communication ability, teaching skills, and interaction with the students, evaluation of exams and assignments, and personal characteristics.• Students are requested to provide a general evaluation of the course on a 5-point scale (student rating)• Students are also encouraged to write their comments on the instructor's overall handling of the course.• Classroom group interviews are conducted periodically to assess the strengths and weaknesses of the course and teaching activities.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department Frequently conducting departmental meetings. <ul style="list-style-type: none">• To provide a wider dimension to the evaluation of quality of teaching, courses, curriculum, and program, exit interviews from outgoing graduates and an analysis of the alumni feedbacks are carried out.

- Employer ratings of the graduates based on measures such as knowledge, perception, communication, personal proficiency, and employment skills are analyzed to draw specific inferences about individual teaching effectiveness.
- Curriculum committee meets regularly to review the content of the course and assessment methods.
- Final year students of the program are requested to provide a separate feedback on their overall experience, and to evaluate the various aspects of learning.
- Peer observation of in-class teaching is done periodically to evaluate those aspects of teaching that cannot be provided by the students such as instructor's content knowledge, delivery, and teaching methods.
- As part of faculty self-assessment, course instructors are requested to prepare the faculty activity report, and also display their teaching objectives, activities, accomplishments, and failures.

3. Processes for Improvement of Teaching.

- Give more examples to understand the concept of functional and non-functional requirements.
- Prepare novel proposal projects for students.
- Equip students with the supporting materials such as mini-projects' guidelines, hands-on sessions on how to design and construct prototypes, conduct feasibility reports, systems' testing strategies and so on.
- Organize workshop and seminars on effective teaching methodologies to enable instructors to improve their teaching skills. Faculty members should be encouraged to attend such courses arranged by the Deanship of Quality and Academic Development.
- Collaborate with international universities of repute and adopt the best teaching and learning practices.
- Peer review of teaching materials can be done to rate the quality of the course syllabus, instructional plans, texts, reading assignments, handouts, homework, and tests/projects. Teaching behaviors such as fairness, grading practices, ethics, and professionalism may also be included.
- Mid-course and periodic student feedback may be solicited from the students to improve the effectiveness of teaching. Instructors' may also ask the students to provide informal assessments of their teaching effectiveness. Instructors may take some corrective action, if necessary, based on the feedback provided from the students.
- The college committee may also suggest improvements based on the feedback report and faculty self-assessment.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an

independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The academic committee of the department frames the guidelines for the standards. The course committee oversees that the guidelines are followed by the course instructors.
- External reviewers from a reputable university shall be invited to evaluate the course materials and students' work, and also review the grading policy.

- The knowledge-area heads carry out a self-assessment of the program biennially. Report based on the feedback of various stakeholders of the department that includes employers, alumni, faculty, and graduating students, and also the assessment of the external evaluators is prepared. Based on this report, the department chair suggests the necessary steps to be taken for the improvement of the program in the subsequent years.
- The Deanship of Quality and Academic Development reviews the various procedures of the department for quality assurance, and monitors the progress of program accreditation.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The course instructors meet periodically to discuss the improvements that can be done in the delivery of the course.
- The Deanship of Quality and Academic Development, after careful analysis of all the feedbacks, submits its suggestions and recommendations to the Quality Committee of the department. Course reports and recommendations of the instructors are also taken into consideration.
- Based on the reports and recommendations, the curriculum committee places its suggestions and modifications for the program or course to the department council for approval. After approval, the department chair forwards it to the college council for ratification and final approval by the faculty deanship.

Name of Course Instructor: Dr. Yessine HadjKacem

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Microprocessor and Assembly Language, 352--CCS-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Science			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 5/ Third Year			
6. Pre-requisites for this course (if any): 251--CCS-3, Computer Organization & Architecture			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

After successful completion of this course the Student will be able to:

- To understand the fundamental concepts in designing Microprocessor.
- To understand how the parts of Microprocessor system interacts.
- To know in detail the internal architecture of Microprocessor 8085.
- To gain knowledge in Assembly Language Programming with respect to microprocessor 8085.

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

19. Blackboard system is being implemented which is a quick source of E-Learning material, students can download ready reference material which can be helpful for them.
20. The Practical Activities are refined for further improvement periodically
21. Students will be encouraged to the following: Acquire knowledge through Internet (new processor) and other knowledge sources; Sharing & discussing the concepts; Brain storming the issues related. And in fact a mini project in the form of study of new processor can be given as assignment

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course introduces microprocessors, instruction set of microprocessors, assembly language programming and machine language concepts. Internal communication structure, memory interface components, Input Output processors, Direct Memory Access technique are discussed. The role of interrupts and interrupt handling techniques are also introduced. The students are given training in developing assembly language programs for simple problems during the theoretical and practical sessions

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction to Microprocessors: Introduction to Microprocessor Organization and Architecture of 8085 Functional block diagram, registers, ALU, bus system, Pin Diagram	3	6
Instruction Set: Instruction set- Data Transfer instructions Arithmetic operations Logic operations and Branch operations BRANCH INSTRUCTIONS 8085 Addressing Modes	4	8
Hardware Scheme for Data Transfer and Interrupts: I/O mapped I/O Memory mapped I/O Interrupts	3	6
Stack and subroutines: Stack, Stack pointer, Program Counter, Storage and Retrieval of information using PUSH and POP instructions, Subroutine, Information exchange between Program Counter and Stack pointer Conditional CALL and RET instructions, Subroutines: multiple calling, nesting and Multiple Ending Subroutines.	3	6
Instruction Cycles and Timing Diagrams: Timing and Control Signals Machine Cycles and Timing diagram for 8085	2	4
Review	1	1.1.1..1.1.4 2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact	Planned	30		30			60
Hours	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define fundamental concepts of 8085 microprocessor	Interactive Lectures, Laboratory Activities, Assignments and Quizzes	Assignments, Mid-terms, Quiz, Laboratory activities, Laboratory Exam, Final exam
1.2	Recognize the applicability of microprocessors		
1.3	Recognize various microprocessor operations		
2.0	Cognitive Skills		

2.1	Develop Assembly Language Programs using 8085 Instruction Set	Interactive Lectures, Laboratory, Assignments,	Assignments, Mid-terms, Quiz, Laboratory activities,
2.2	Analyze Assembly Language programs for proposing solutions to the real world problems	Quizzes and Brainstorming	Laboratory Exam, Final exam
3.0	Interpersonal Skills & Responsibility		
3.1	Specify, investigate, analyze, design and develop assembly level program for solving real-time problems	Making students to solve problems directly on the white board .	Assignments, Mid-terms, Quiz, Laboratory activities, Laboratory Exam, Final exam
4.0	Communication, Information Technology, Numerical		
4.1	1.1.1..1.1.5 Compare various versions of microprocessors.	Use of internet and other e-learning resources.	Group Assignments.
5.0	Psychomotor		
5.1	N/A	N/A	N/A

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	3,6 and 9	6 %
2	Quiz	4 and 10	4%
3	Mid Term Exam I	7	10 %

4	Mid Term Exam II	14	10 %
5	Lab Activities	All	10%
6	Lab Exam	15	10%
7	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks

Microprocessor Architecture, Programming and Applications with the 8085, 6/e, by Ramesh Gaonkar, 2013.

2. List Essential References Materials (Journals, Reports, etc.)

**The x86 Microprocessors: 8086 to Pentium, Multicores, Atom and the 8051
Microcontroller: Architecture, Programming and Interfacing, 2e, by Lyla, 2014**

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms are already provided but it should be fully equipped with projectors.

2. Technology resources (AV, data show, Smart Board, software, etc.)

High configuration computers with LCD projector

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Online internet facility for accessing study materials

Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Distribution of feedback forms at the end of semester to students.
- Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.
- Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.
- Student course evaluation at the conclusion of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures.

- Frequently conducting departmental meetings.
- Student attendance is closely monitored
- Student feedback is considered for teaching evaluation
- Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation

3. Processes for Improvement of Teaching

- Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.

- Training of faculty members on different software's/hardware is facilitated.
- Blackboard E-Learning system is introduced.
- Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program. Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Imen

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department : College of Computer Science / Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 361-CCS-3 Artificial Intelligence			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course: <u>Dr. Anand Deva Durai C</u>			
5. Level/year at which this course is offered: Level 6/ III year			
6. Pre-requisites for this course (if any): 231-CCS-3 – Data Structures and Algorithms			
7. Co-requisites for this course (if any):			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

Artificial intelligence is Ubiquitous today. It is the type of adaptable intellect found in humans, a flexible form of intelligence capable of learning how to carry out vastly different tasks. Artificial Intelligence plays a very important role in not just the development of business and processes but also the humans to the next level. With the rapid growth in technology and development, we can expect a lot more exciting features and uses of AI in the future.

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course teaches the basic concepts and algorithms such as heuristic search, planning and problem solving, including their usage, and how they can be used to solve interesting AI problems. This course also focuses on applied AI in the field of Natural Language Processing.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction <ul style="list-style-type: none">• Foundation and History• State of Art• Intelligent Agents	2	4

Problem Solving <ul style="list-style-type: none"> • Uninformed Search • Informed Search • Local Search 	3	6
Knowledge & Reasoning <ul style="list-style-type: none"> • Propositional Logic • Agent based on Propositional Logic • First Order Logic • Classical Planning • Planning and Acting in Real World 	3	6
Uncertainty & Reasoning <ul style="list-style-type: none"> • Quantifying Uncertainty • Probabilistic Reasoning • Making Simple & Complex Decisions 	3	6
Application : Natural Language Processing <ul style="list-style-type: none"> • Language Models • Text Classification • Information Retrieval • Machine Translation • Speech Recognition 	4	8

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30			30		60
	Actual	30			15		45
Credit	Planned	2			2		4
	Actual	2			1		3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Categorize an AI problem based on its characteristics and its constraints.	Interactive lecture, Lab Manual, Software Demo, supplementary course notes,	Quiz, Lab activities and Mid Exams, Book Exercise
1.2	Understand and implement search and adversarial algorithms.	lectures, Lab Sessions, Discussion, supplementary Lecture notes, Independent Study, Assignments	Tests and Assignment, Lab activities and Exams, Discussions
2.0	Cognitive Skills		
2.1	Identify appropriate AI methods to solve a given problem.	Lectures, Case Studies, Demonstrations	Case study reports, Quizzes, Exams
2.2	Implement efficient algorithms for search and planning in a suitable programming language.	Lectures, Case Studies, Demonstrations	Case study reports, Quizzes, Exams, Lab Activities
2.3	converting real world problems into	Lectures, Case Studies, Demonstrations	Case study reports, Quizzes, Exams

	AI search problems formulated using the appropriate search algorithm.		
2.4			
3.0	Interpersonal Skills & Responsibility		
3.1	Analyze and critically discuss ethical issues within AI.		Review Reports, Exams
3.2			
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate practical experience by implementing and experimenting with the learnt algorithms.		Group mini Projects, Presentations, Lab Activities
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm Examination – I (Theory)	6	10 %
2	Midterm Examination – II (Theory)	12	10 %
3	Assignment and Quiz's – Theory	After Every chapter	10 %
4	Practical Examination	15	10 %
5	Activities - Practical	After Every chapter	10 %
6	Final Examination (Theory)	16	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

2. Office hours (10 hours/Week) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
3. Faculty has to be available in his office during the office hours for academic advice.
4. Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students
5. Refer to the faculty time table.

E Learning Resources

1. List Required Textbooks

1. “Artificial Intelligence : A Modern Approach” by Stuart J. Russel and Peter Norvig
– Third Edition, McGraw Hill.2009

2. List Essential References Materials (Journals, Reports, etc.)

Introduction to Artificial Intelligence by Elaine Rich & Kevin Knight , 2nd Ed.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

- <http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-034-artificial-intelligence-fall-2010/>
- <http://aima.cs.berkeley.edu/>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- <http://ocw.mit.edu/courses/electrical-engineering-and-computer-science/6-034-artificial-intelligence-fall-2010/>
- <http://aima.cs.berkeley.edu/>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms – 03 Number of seats in each class room – 50 Laboratories - 03 Accessories – Data Show Projector
2. Technology resources (AV, data show, Smart Board, software, etc.) Computers are installed with relevant software for ready to use. Internet connection
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Overhead projector Computer for individual students with network connection Internet access

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">Confidential completion of standard course evaluation questionnaire. Group discussion with small groups of students.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department <ul style="list-style-type: none">Student attendance is closely monitored. Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc.
3. Processes for Improvement of Teaching Workshops on teaching methods, review of recommended teaching strategies.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Check marking of a sample of examination papers or assignment tasks

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Revising the course in the next semester by assessing the feedback forms, completion of the course and understanding of the subject by students.

Name of Course Instructor: _Dr Habib_____

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Data Communication and Computer Networks			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Science			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 6/ Third Year			
6. Pre-requisites for this course (if any): None			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

This course introduces the underlying concepts behind networking using the Internet and its protocols as examples. There are three goals:

- (1) to give an understanding of how networks, especially the Internet works
- (2) to give the experience of large scale systems and
- (3) to teach the network programming

The Students after completing this course will be able to

- Understand and implement the Internet protocols
- Be a competent network and systems programmer.
- Think like a networking practitioner
- Read and judge articles on networking in trade magazines
- Begin to read and judge research and technical articles on networking

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

22. Revision of course content to incorporate latest developments in the area of subject
23. Modifications and revisions in lecture notes, exercises, examples
24. E-books will be made available to students through LMS blackboard

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course is a detailed introduction to the basic hardware and software, architectural components for computer communications in local area networks. The components that are focused upon include understanding the basics of computer networks, switching, routing, protocols and security

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours

Computer Networks and the Internet: Introduction o Network Edges o Network Core o Introduction to Network Performance o Network Layers, OSI and TCP/IP Reference models o History of the Internet	2	4
Application Layer o Network Application Architectures o Applications: HTTP, FTP, e-mail (SMTP), DNS, P2P o Socket Programming	3	6
Transport Layer o Transport-layer Services o Connectionless transport: UDP o Reliable data transfer o Connection-oriented transport: TCP o Congestion control	3	6
Network Layer o Introduction to forwarding and Routing o Virtual Circuits and Datagram Networks o IP: datagram format, addressing, ICMP, IPv6 o Routing Algorithms o Internet Routing	3	6
Link Layer o Introduction to Link Layer o Error detection/correction o Medium Access Protocols o Switched LAN	2	4
Other topics o Wireless Networks o Multimedia Networks o Network Security o QoS and Network Management	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

2 - 4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the use of layers in networking	Interactive Lectures, Laboratory Activities	Assignments, Quiz, Laboratory activities, Exam
1.2	Define a packet and explain its role in transporting data		
2.0	Cognitive Skills		
2.1	Demonstrate an understanding of the significance and purpose of protocols and standards and their key elements and use in data communications and networking	Interactive Lectures, Laboratory and Brainstorming	Assignments, Quiz, Laboratory activities, Exam
2.2	Describe challenges and solutions for TCP/IP security		
3.0	Interpersonal Skills & Responsibility		
3.1	compare application protocols such as VoIP and IPTV	Laboratory Activities and Brainstorming	Assignments, Quiz, Laboratory activities, Exam
3.2	compare and contrast each layer in the TCP/IP model with those in the OSI model		
4.0	Communication, Information Technology, Numerical		
4.1	Manage one's own learning and development, including time management and organizational skills.	Encourage students to manage time in Laboratories, Exam,	Assignments, Quiz, Laboratory activities, Exam

		Quiz and Assignment	
5.0	Psychomotor		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Theory Assignments and class activities including quizzes and homework's	Assignment will be given After 2 weeks and quiz after 4 th week	10%
2	Mid Exam I	6	10%
3	Mid Exam II	12	10%
4	Lab Activities	1- 14	10%
5	Lab Exam	15	10%
6	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks

“Computer Networking: A Top-Down Approach,” 7/E, by James F. Kurose and Keith W. Ross, Pearson; 7 edition (May 6, 2016)

2. List Essential References Materials (Journals, Reports, etc.)

“The Practical OPNET User Guide for Computer Network Simulation” 1st Edition, by Adarshpal S. Sethi & Vasil Y. Hnatyshin, Chapman and Hall/CRC; (August 24, 2012)

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

http://users.rowan.edu/~hnatyshin/opnet/Teaching/DataComm_syllabus_Fall2013.pdf

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms are already provided but it should be fully equipped with projectors.

2. Technology resources (AV, data show, Smart Board, software, etc.)

High configuration computers with LCD projector

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Online internet facility for accessing study materials

Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Distribution of feedback forms at the end of semester to students.
- Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.
- Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.
- Student course evaluation at the conclusion of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures.

- Frequently conducting departmental meetings.
- Student attendance is closely monitored
- Student feedback is considered for teaching evaluation
- Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation

3. Processes for Improvement of Teaching

- Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.
- Training of faculty members on different softwares/hardware is facilitated.
- Blackboard E-Learning system is introduced.
- Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program.

Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Azath

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

COURSE SPECIFICATIONS

(CS)

Web engineering (373--CCS-3)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department: College of Computer Science, Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: Web engineering (373--CCS-3)			
2. Credit hours: 3			
3. Program(s) in which the course is offered. Computer Science (If general elective available in many programs indicate this rather than list programs) BSCS (Bachelor of Science in Computer Sciences)			
4. Name of faculty member responsible for the course:			
5. Level/year at which this course is offered: Level 4			
6. Pre-requisites for this course (if any): 222--CCS-3			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus:NA			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

To provide students with conceptual and practical knowledge, and skills required to develop web applications and web services

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

1. Activating the use of Internet for further reading, and finding new directions in the field.
2. Periodical reviewing of a course with the Committee on Academic Accreditation in the department.
3. Updating the course contents regularly based on recent developments in the field.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

- Web Engineering fundamentals: requirements, analysis modeling, design modeling, testing.
- Internet basics for web applications.
- Technologies and tools for developing web applications: markup languages, styling, data description and transformation, client and server-side programming.
- Web services.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Chapter 1: Web Engineering Fundamentals <ul style="list-style-type: none"> ● What's the web engineering ● The component of web engineering 	1	2

<p>Chapter 2: A web engineering process</p> <ul style="list-style-type: none"> Defining the framework Incremental process flow Generic actions and tasks for the WebE Framework 	2	4
<p>Chapter 3: Analysis modeling for WebApps</p> <ul style="list-style-type: none"> Understanding Analysis in the Context of WebE Analysis modeling for WebApps Understanding the users The content model The interaction model The functional model The configuration model Relationship-Navigation Analysis 	3	6
Mid Term-1		
<p>Chapter 4: WebApp Design</p> <ul style="list-style-type: none"> Design for WebApps Design Goals Design and WebApp Quality The Design Process Initial Design of the Conceptual Architecture Initial Design of the Technical Architecture 	3	6
<p>Chapter 5: Interaction design</p> <ul style="list-style-type: none"> Interface Design Principles and Guidelines Interface Design Workflow Interface Design Preliminaries Interface Design Steps 	3	6
<p>Chapter 6: Construction and deployment</p> <ul style="list-style-type: none"> Interface Design Principles and Guidelines Construction and Deployment within the WebE Process Construction Principles and Concepts Construction and the Use of Components Component-Level Design Guidelines Component Design Steps 	3	6

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact	Planned	30	0	30	0	0	60
Hours	Actual	30	0	15	0	0	45
Credit	Planned	2	0	2	0	0	4
	Actual	2	0	1	0	0	3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Demonstrate an understanding of the relationship of various web technologies.	<ul style="list-style-type: none"> • Lectures, • Class discussions, • Demonstrations 	<ul style="list-style-type: none"> • Homework • Quizzes • Exams
1.2	Describe markup languages for processing, identifying, and presenting of information in web pages.	<ul style="list-style-type: none"> • Lectures, • Class discussions, • Demonstrations 	<ul style="list-style-type: none"> • Homework • Quizzes • Exams
2.0	Cognitive Skills		

2.1	Use both client-side and server-side technologies to implement web pages and websites.	<ul style="list-style-type: none"> ● Lectures ● Tutorial ● Group discussions 	<ul style="list-style-type: none"> ● Homework ● Quizzes ● Exams
2.2	Demonstrate best practices for designing a website.		
2.3	Describe and transform data using XML and its related technologies		
3.0	Interpersonal Skills & Responsibility		
3.1	Analyze and evaluate user requirements for any website design.	<ul style="list-style-type: none"> ● Lectures ● Tutorial ● Group discussions 	<ul style="list-style-type: none"> ● Project ● Report
3.2	Compare and contrast compiled and interpreted languages.		
4.0	Communication, Information Technology, Numerical		
4.1	Use multiple web technologies to create advanced web components.	<ul style="list-style-type: none"> ● Lectures ● Tutorial ● Group discussions 	<ul style="list-style-type: none"> ● Homework, ● Quizzes ● Exams ● Presentation
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz1	3	2
2	Assignment 1	4	3
3	First Mid- Term Exam	5	10
4	Quiz2	7	2
5	Assignment 2	8	3
6	Second Mid- Term Exam	9	10
7	Final Practical Exam (Marks distribution for various assessment is done the Practical Instructor)	15	20
8	Final Examination	16	50

9	Total Marks	-	100
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D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours as per schedule of teacher Time-Table are specified to the students and students are encouraged to consult the teacher in case of any problem related to the lectures/ assignment/ homework/ exercises/ practical.

E. Learning Resources

1. List Required Textbooks

R. Pressman, Web Engineering: A Practitioner's Approach, McGraw-Hill Higher Education, 23 May 2011.

2. List Essential References Materials (Journals, Reports, etc.)

NIL

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

Blackboard

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Websites on the internet that are relevant to the topics of the course

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

✓ Lecture rooms are equipped with whiteboard.

<ul style="list-style-type: none">✓ Lecture rooms provide enough space for the students.✓ Laboratories are well equipped, and everything is provided to the students.
<p>2. Technology resources (AV, data show, Smart Board, software, etc.)</p> <ul style="list-style-type: none">✓ An easy accessible computer lab.✓ Updated version of subject syllabus is uploaded for student reference.✓ Computers are installed with the facility of LAN/WAN.✓ Relevant software' for use of students.
<p>3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)</p> <p>Everything is already provided according to the course requirement.</p>

G. Course Evaluation and Improvement Processes

<p>1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching</p> <ul style="list-style-type: none">✓ Distribution of feedback forms at the end of semester to the students.✓ Head of the department review overall course deficiencies based on the students' evaluation, faculty input, course file, and program assessment.✓ Student course evaluation at the conclusion of the course.✓ General knowledge questions regarding information security are asked from the students.
<p>2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department</p> <ul style="list-style-type: none">✓ Faculty assessment of the course and effectiveness of the teaching delivery.✓ Periodic self-assessment of the program.✓ Student attendance is closely monitored.✓ Student feedback is considered for teaching evaluation.✓ Mid Term Exam/Practical/Assignments/Homework determines the standard of teaching and become a milestone for teaching evaluation.
<p>3. Processes for Improvement of Teaching</p> <ul style="list-style-type: none">✓ Organize workshops on effective teaching methods to enable instructors to improve their teaching skills.✓ Teaching method will focus on students' learning and on course learning outcomes.✓ Regular seminars were arranged in the college of computer and information sciences in which each faculty member has to participate.✓ Training of faculty members on different software/hardware is facilitated.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- ✓ The samples of student work in the course are appended to course files to check on the standard of grades and achievements
- ✓ Student exam question papers are verified by course coordinator and HOD.
- ✓ Answer sheets are checked by the faculty members who are teaching the course.
- ✓ Group checking technique is followed to have a uniform standard of checking the students' answer scripts.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- ✓ The feedback received from assessments will be used to plane for further improvement in the course syllabus, teaching method, and delivery of course materials.
- ✓ The course coordinators will be entrusted with the primary duty of administering every two-year a self-assessment of the program, and to evaluate the findings of this evaluation, the surveys of the employers, and the input of the exit interviews with the graduating students.
- ✓ Update text books.
- ✓ Consulting other top universities course specifications and contents.

Name of Course Instructor: Dr Imen

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Subject Code: 381--CCS-3

Subject Name: Operating system

Course Specifications

Institution: KING KHALID UNIVERSITY	Date: 04/02/2018
College/Department : College of Computer Science – Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: Operating System – 381--CCS-3			
2. Credit hours: 3 Hrs			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs)			
Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course Dr. Imen			
5. Level/year at which this course is offered: Level - 6			
6. Pre-requisites for this course (if any): 331--CCS-3			
7. Co-requisites for this course (if any): -- N A --			
8. Location if not on main campus: -- N A --			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
	<input type="text"/>		<input type="text"/>

f. other

What percentage?

Comments:

B Objectives

1. What is the main purpose for this course?

This course is designed to provide the students with an overview of operating system basis concepts.

The area is large enough to justify a course on their own; this one semester course covers introduction & evolution of operating system, operating system structures, process management, CPU scheduling and memory management.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

The course contents are periodically reviewed by the following to include new relevant materials:

- Course Instructor
- Course Coordinator
- Knowledge Area Group Heads
- College Undergraduate Committee

The black board component of e-learning system is successfully implemented at the supportive level of the course.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course is designed to provide the students with an overview of operating system basis concepts.

It will begin with an overview of the structure of modern operating systems.

The other specific topics that this course will cover are: process concept, algorithms for CPU scheduling , process synchronization and deadlocks.

Also, it will introduce the core concepts of operating systems, such as file systems, principal and virtual memory management, file systems and input and output device management mass storage structure. The course will consist of weekly lectures, labs, quizzes, assignments and exams. The goal of the lectures is to introduce the core concepts. The goal of the labs is to give students some

exposure to operating system code. Students are expected to read the assigned materials prior to each class, and to participate in in-class discussions.

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
Introduction to Operating System: What Operating System Do, Computer System Organization: Storage structure-I/O structure, Computer System Architecture: Single Processor Systems–Multi processor Systems-Clustered Systems, Distributed systems.	1	2
Operating System Structures: Operating System operations, Operating system components: Process- Memory- File- Secondary Storage Management, Operating system services, System call, Operating system structure: simple structure-Layered approach-microkernel, Operating system generation	1	2
Process Management: Process Concepts-The Process, Process State, PCB, Threads, Process Scheduling-Queues, Scheduler, Context Switch, Operations on Process-Creation & Termination. Threads: Overview, Multithreading Models, Threading Issues	2	4
Process synchronization: Background, The Critical Section Problem, Semaphores, Classical Synchronization Problems, Monitors	2	2
CPU Scheduling: Basic Concepts, Scheduling Criteria, Scheduling Algorithms	2	4
Principal Memory Management Background, Swapping, Contiguous Memory Allocation, Paging, Structure of the Page Table, Segmentation	2	4
Virtual Memory: Demand Paging-Page fault, performance of demand paging, Page Replacement- basic page replacement, Thrashing- Memory Mapped Files	2	4

Mass Storage Structure: Disk Structure, Disk Scheduling- FCFS Scheduling, SSTF Scheduling, Disk Management-Disk Formatting, Boot Blocks, Bad blocks, Swap space management	1	2
File System Interface: File Concepts, Access Methods, Directory Structure- Directory Implementation, Allocation methods, Free Space Management	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	30			60
	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert

appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)			
Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Describe how important operating system features are implemented t	Lectures, class discussions	Exams, Quizzes, Assignments
1.2	Describe the general structure of an operating system and its functions.	Lectures	Exams, Quizzes, Assignments
2.0	Cognitive Skills		
2.1	Explain some examples that utilize advanced operating system features, including file systems, memory management, disk scheduling and device management	Case Studies, Lab Tutorials	Exam, Group Work / Discussion / Mini-Project
2.2	Create and develop some applications that utilize operating system features, including process management, file systems, virtual memory, disk scheduling and mass storage device management.	Case Studies, Lab Tutorials	Exam, Group Work / Discussion / Mini-Project
3.0	Interpersonal Skills & Responsibility		
3.1	Analyze to think independently, Set tasks and solve problems on ethical scientific basis relevant to operating systems and systems programming.	Case Studies, Lab Tutorials	Exam, Group Work / Discussion / Mini-Project
3.2	Analyze to Communicate with others positively as part of a group, involving leadership, group dynamics and interpersonal skills such as listening, negotiation and persuasion relevant to operating systems	Case Studies, Lab Tutorials	Exam, Group Work / Discussion / Mini-Project
4.0	Communication, Information Technology, Numerical		

4.1	Demonstrate the use of information and communication technology to discuss problems relevant to Operating Systems.	Case Studies, Lab	Group Work/discussion/ Mini-Project
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments	3, 6, 9	6 %
2	Quiz	4, 10	4 %
3	MidI	7	10 %
4	MidII	12	10 %
5	Laboratory	6, 10, 15	20 %
6	Final Examination	17	50 %
	Total		100%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- The office hours (10 hours/Week, Sunday to Thursday, between 9 AM and 3 PM) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
- Students are encouraged to consult the faculty for queries or clarifications related to the lectures, assignments, homework, exercises, and laboratory.
- The faculty is required to be available in his office during the office hours for academic advice.

- Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students.

E Learning Resources

1. List Required Textbooks

Operating System Concepts, 10th Edition, ABRAHAM SILBERSCHATZ, PETER BAER GALVIN, GREG GAGNE, Wiley, 2018

2. List Essential References Materials (Journals, Reports, etc.)

Modern Operating Systems, 4th Edition, Andrew S. Tanenbaum, Prentice Hall, 2014.

3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

Operating System in Depth, Thomas W. Doepfner, Wiley, ISBN-9780471687238

4. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

Students should be regular visitors of different websites of institutions and must have close observation on the computer based technology.

. www.en.wikipedia.org/wiki/Operating_system

. www.webopedia.com/TERIWo/operating_system.html

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Students are encouraged to visit the publishers' site of the text and recommended books to have the supporting material for students.

The publishers also facilitate the students by providing the ppts and pdfs for students' support

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) <ul style="list-style-type: none">➤ Lecture rooms are equipped with whiteboard.➤ Lecture rooms provide enough space for the students.➤ Laboratories are well equipped and everything is provided to the students.
2. Computing resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none">○ An easily accessible computer lab.○ Updated version of subject syllabus is uploaded for student reference○ Computers are installed with the facility of LAN/WAN.○ Relevant software's for use of students.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) <ul style="list-style-type: none">○ Everything is already provided according to the course requirement

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">○ Distribution of feedback forms at the end of semester to students.○ Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.
--

- Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.
- Student course evaluation at the conclusion of the course.
- General knowledge questions regarding OS are asked from the students

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Faculty assessment of the course and effectiveness of teaching delivery.
- Periodic self- assessment of the program.
- Student attendance is closely monitored
- Student feedback is considered for teaching evaluation
- Mid Term Exam/Practical's/Assignments/Homework determines the standard of teaching and become a milestone for teaching evaluation.

3 Processes for Improvement of Teaching

- Organize workshops on effective teaching methods to enable instructors to improve their teaching skill
- Teaching method will focus on students' learning and on course learning outcomes
- Regular Seminars were arranged in the college of computer science in which each faculty member has to participate
- Training of faculty members on different software's/hardware is facilitated.
- Blackboard E-Learning system was introduced two years back the faculty was properly trained

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The samples of student work in this course are appended to course files to check on the standard of grades and achievements.
- Student exam question papers are verified by course coordinator and HOD.
- Answer sheets are checked by the faculty members who are teaching the course.
- Group checking technique is followed to have a uniform standard of checking the students' answer scripts.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The feedback received from assessments will be used to plan for further improvement in the course syllabus, teaching method, and delivery of course materials.
- The course coordinators will be entrusted with the primary duty of administering every two-year a self-assessment of the program, and to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students.

Name of Course Instructor: ___Dr Imen_____

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS

(CS)

Subject Code: 414--CCS-3

Subject Name: Theory of Compiler

Course Specifications

Institution: **King Khalid University, Abha** Date of Report: **18/02/2019**

College/Department: **College of Computer Science, Department of Computer Science**

A. Course Identification and General Information

1. Course title and code: **Theory of Compiler, 414--CCS-3**

2. Credit hours: **3 Hours (2 Lecture + 1 Practical)**

3. Program(s) in which the course is offered.

BSCS (Bachelor of Science in Computer Sciences)

4. Name of faculty member responsible for the course:

5. Level/year at which this course is offered: **Level 7**

6. Pre-requisites for this course (if any): **315MATH**

7. Co-requisites for this course (if any): Nil

8. Location if not on main campus: NA

9. Mode of Instruction (mark all that apply)

a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. E-Learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>

f. Other

What percentage?

Comments:

B. Objectives

1. What is the main purpose of this course?

This course aims at:

- Giving an introduction to the theory of compilers, pre-processors, lexical analysis, syntax analysis, semantic analysis, intermediate representations, code generation, and code optimization.
- Understanding the structure of compiler and the function of the different phases of the compiler.
- Understanding the concepts of lexical analysis, syntax analysis, and semantic analysis.
- Constructing regular expressions and grammar for programming languages.
- Designing and construct scanners and parsers.
- Knowing how to use the compiler construction tools(Lex and Yacc)

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Include more advance applications.
- Handouts must be given to the students at the beginning of the semester.
- Tutorials must be given during lab sessions.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

This module introduces topics include compiler design, lexical analysis, parsing, symbol tables and errors handling.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours
Chapter 1: Overview of compiler phases: - Introduction - Structure of a compiler	1	2

Chapter2: Lexical Analysis:							
	<ul style="list-style-type: none"> - Lexical Analysis Versus Parsing - Tokens, Patterns, and Lexemes - Attributes for Tokens - Lexical Errors 	2		4			
Chapter 3: Specification of token							
	<ul style="list-style-type: none"> - Strings and Languages - Operations on Languages - Regular Expressions - Regular definitions 	3		6			
Chapter 4: Recognition of token							
	<ul style="list-style-type: none"> - Transition Diagrams - Recognition of Reserved Words and Identifiers - Architecture of a Transition-Diagram-Based Lexical Analyzer 	3		6			
Chapter 5: Finite automata (DFA, NFA):							
	<ul style="list-style-type: none"> - Nondeterministic Finite Automata - Transition Tables - Acceptance of Input Strings by Automata - Deterministic Finite Automata 	2		4			
Chapter 6: Syntax analysis							
	<ul style="list-style-type: none"> - The Role of the parser - Context free Grammar - Top-Down Parsing - Left recursive and left factoring - Bottom Up Parsing 	3		6			
Revision		1		2			
2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	30			60
	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment

Methods and Teaching Strategy

	NQF Learning Domains and Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge: Upon successful completion of the course, a student supposed to be able to:		
1.1	Define and describe the different phases of a compiler	Lectures, tutorials, discussion, collaborative learning	Exams, tests, and quizzes
1.2	Describe Symbol table, parse tree, and abstract syntax tree for a target language		
1.3	Recognize regular expression that generates a target language		
2.0	Cognitive Skills Coping with change: Upon successful completion of the course, a student supposed to be able to:		
2.1	construct regular expression and finite automata to design a new language	Lectures ,laboratory, seminars, discussion, collaborative learning	Exam, quizzes, and homework assignments, individual or group work, many projects
2.2	Analyze a program syntactically and semantically		
2.3	Recognize and use terminology and formalism related to grammars for programming languages and compiler construction		
3.0	Interpersonal Skills & Responsibility: Upon successful completion of the course, a student supposed to be able to:		
3.1	Use lexical analyzer and parser generator tools to build language-processing programs	Lectures, laboratory, seminars, discussion, collaborative learning	Homework assignments, problem-based questions are given to the students and asked to refer the
3.2	Show the equivalence between regular expressions, NFAs, DFAs		

			public domain and reference books.
4.0	Communication, Information Technology, Numerical: Upon successful completion of the course, a student is supposed to be able to:		
4.1	Implement a simple compiler, and give a demonstration of the implementation	Participation during the lectures and labs.	Group assignments, project presentation, oral questions during lectures, class participation
4.2	Interpret the different phases of a compiler	Different tasks are assigned in the class and students are asked to complete the tasks	
5.0	Psychomotor:		
5.1	N/A		

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments	3, 6, 9	6 %
2	Quiz	4, 10	4 %
3	MidI	7	10 %
4	MidII	12	10 %
5	Laboratory	6, 10, 15	20 %
6	Final Examination	17	50 %
	Total		100%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice (include amount of time teaching staff are expected to be available each week).

- The office hours (10 hours/Week, Sunday to Thursday, between 9 AM and 3 PM) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
- Students are encouraged to consult the faculty for queries or clarifications related to the lectures, assignments, homework, exercises, and laboratory.
- The faculty is required to be available in his office during the office hours for academic advice.
- Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students.

E. Learning Resources

1. List Required Textbooks

- Alfred V. Aho, Monica S. Lam, Ravi Sethi, Jeffrey D. Ullman, "Compilers: Principles, Techniques & Tools", 2nd Edition, Pearson New International Edition, 2013, ISBN-10: 1292024348, ISBN-13: 9781292024349,

2. List Essential References Materials (Journals, Reports, etc.)

- <http://www.compilers.net/Dir/Free/Books> - a set of links to free compiler related books in the net.
- <http://www.thefreecountry.com> - Free programmer's resources including links to many free compilers, some of whom's source code is readily available to inspect.

3. List Recommended Textbooks and Reference Materials (Journals, Reports, etc.)

- Compiler Construction: Principles and Practice, Kenneth C. Loudon, PWS Publishing, 1997, ISBN 0534939724
- Modern Compiler Implementation in Java, Andrew W. Appel, Cambridge University Press, 1998, ISBN 0-521-58388-8.

4. List Electronic Materials (e.g., Web Sites, Social Media, Blackboard, etc.)

- <http://www.compilerconnection.com> links to compiler information
- http://en.wikipedia.org/wiki/compiler_construction

5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- Lex and Yacc tools

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- Lecture room equipped with blackboard, overhead projector, computer, and internet connection
- Well-equipped laboratory with computers running on Linux operating system supporting Lex and Yacc compiler tools.

2. Computing resources (AV, data show, Smart Board, software, etc.)

- Updated course syllabus uploaded in the LMS (Learning Management System) Blackboard for reference.
- Computers with LAN/WAN facility.
- Operating system supporting Lex and Yacc tools.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

- Lecture slides for the course are uploaded in the Blackboard

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Students are required to submit individual feedback questionnaires at the end of the course. Feedback is elicited on the instructor's course management and planning, preparedness for class sessions, communication ability, teaching skills, interaction with the students, evaluation of exams and assignments, and personal characteristics.
- Students are requested to provide a general evaluation of the course on a 5-point scale (student rating)
- Students are also encouraged to write their comments on the instructor's overall handling of the course.

- Classroom group interviews are conducted periodically to assess the strengths and weaknesses of the course and teaching activities.

2. Other Strategies for Evaluation of Teaching by the Program/Department Instructor

- To provide a wider dimension to the evaluation of quality of teaching, courses, curriculum, and program, exit interviews from outgoing graduates and an analysis of the alumni feedbacks are carried out.
- Employer ratings of the graduates based on measures such as knowledge, perception, communication, personal proficiency, and employment skills are analyzed to draw specific inferences about individual teaching effectiveness.
- Curriculum committee meets regularly to review the content of the course and assessment methods.
- Final year students of the program are requested to provide a separate feedback on their overall experience, and to evaluate the various aspects of learning.
- Peer observation of in-class teaching is done periodically to evaluate those aspects of teaching that cannot be provided by the students such as instructor's content knowledge, delivery, and teaching methods.
- As part of faculty self-assessment, course instructors are requested to prepare the faculty activity report, and also display their teaching objectives, activities, accomplishments, and failures.

3. Processes for Improvement of Teaching

- Organize workshop and seminars on effective teaching methodologies to enable instructors to improve their teaching skills. Faculty members should be encouraged to attend such courses arranged by the Deanship of Quality and Academic Development.
- Collaborate with international universities of repute and adopt the best teaching and learning practices.
- Peer review of teaching materials can be done to rate the quality of the course syllabus, instructional plans, texts, reading assignments, handouts, homework, and tests/projects. Teaching behaviors such as fairness, grading practices, ethics, and professionalism may also be included.
- Mid-course and periodic student feedback may be solicited from the students to improve the effectiveness of teaching. Instructors' may also ask the students to provide informal assessments of their teaching effectiveness. Instructors may take some corrective action, if necessary, based on the feedback provided from the students.
- The college committee may also suggest improvements based on the feedback report and faculty self-assessment.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The academic committee of the department frames the guidelines for the standards. The course committee oversees that the guidelines are followed by the course instructors.
- External reviewers from a reputable university shall be invited to evaluate the course materials and students' work, and also review the grading policy.
- The *knowledge-area* heads carry out a self-assessment of the program biennially. A report based on the feedback of various stakeholders of the department that includes employers, alumni, faculty, and graduating students, and also the assessment of the external evaluators is prepared. Based on this report, the department chair suggests the necessary steps to be taken for the improvement of the program in the subsequent years.
- The Deanship of Quality and Academic Development reviews the various procedures of the department for quality assurance, and monitors the progress of program accreditation.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The course instructors meet periodically to discuss the improvements that can be done in the delivery of the course.
- The Deanship of Quality and Academic Development, after careful analysis of all the feedbacks, submits its suggestions and recommendations to the Quality Committee of the department. Course reports and recommendations of the instructors are also taken into consideration.
- Based on the reports and recommendations, the curriculum committee places its suggestions and modifications for the program or course to the department council for approval. After approval, the department chair forwards it to the college council for ratification and final approval by the faculty deanship.

Name of Course Instructor: Dr Talal

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS

(CS)

Subject Code: 425--CCS-2

Subject Name: Programming Paradigms

Course Specifications

Institution: **King Khalid University, Abha** Date of Report: **04/02/2019**

College/Department: **College of Computer Science, Department of Computer Science**

A. Course Identification and General Information

1. Course title and code: **425--CCS-2**

Programming Paradigms

2. Credit hours: **2 Hours**

3. Program(s) in which the course is offered.

Bachelor in Computer Sciences

4. Name of faculty member responsible for the course:

5. Level/year at which this course is offered: **Level 7**

6. Pre-requisites for this course (if any): **325--CCS-3**

7. Co-requisites for this course (if any): **414--CCS-3**

8. Location if not on main campus: **7 branches teaching this course**

9. Mode of Instruction (mark all that apply)

a. Traditional classroom

What percentage?

b. Blended (traditional and online)

What percentage?

c. E-Learning

What percentage?

d. Correspondence

What percentage?

f. Other

What percentage?

Comments:

B. Objectives

3. What is the main purpose of this course?

This course aims at :

- Increased ability to express ideas
- Improved background for choosing appropriate languages
- Increased ability to learn new languages
- Better understanding of significance of implementation
- Better use of languages that are already known
- Overall advancement of computing

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Include more advance applications.
- Handouts must be given to the students at the beginning of the semester.
- Tutorials must be given during the theory sessions.

C. Course Description

The course covers the modern day concepts of conceptualizing and writing programs which students will encounter in many computer science courses.

1. Topics to be Covered

List of Topics	Week	Contact Hours
1. Overview of Programming Languages , domains , language evaluation criteria and Introduction to compilation methods	1	1
2. Describing Syntax	1	2
3. BNF and Context-Free Grammars	2	4
4. Ambiguity and Extended BNF	1	2
5. Static and dynamic binding	1	2
6. Static and dynamic scope	1	2
7. Life time	1	2
8. Primitive data type and ordinal types	1	2

9. Arrays	1	2
10. Record , unions and pointers	1	2
11. Design Issues for Object-Oriented Languages	1	2
12. Support of object oriented programming in c++ and java	1	2
13. Exception Handling	1	2
14. Revision	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	30				60
	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

6

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

	NQF Learning Domains and Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	<p>Knowledge: Upon successful completion of the course, a student supposed to be able to:</p>		

1.1	Define binding, scope and life time of variables	Lectures, tutorials, discussion, collaborative learning	Exams, tests, and quizzes
1.2	List the language evaluation criteria		
2.0	Cognitive Skills Coping with change: Upon successful completion of the course, a student supposed to be able to:		
2.1	Construct BNFs for some language statements	Lectures, tutorials ,seminars, discussion, collaborative learning	Exam, quizzes, and homework assignments, individual or group work.
2.2	Analyze the structure of the language and program		
3.0	Interpersonal Skills & Responsibility: Upon successful completion of the course, a student supposed to be able to:		
3.1	Compare between different object oriented language support	Lectures, tutorials, seminars, discussion, collaborative learning	Homework assignments, problem-based questions are given to the students and asked to refer the public domain and reference books.
4.0	Communication, Information Technology, Numerical: Upon successful completion of the course, a student is supposed to be able to:		
4.1	Communicate the ideas of exception handling orally and through writing	Group work	Group assignments, project presentation, oral questions during lectures, class participation
5.0	Psychomotor:		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments	3, 6, 9	6 %
2	Quiz	4, 10	4 %
3	MidI	7	20 %
4	MidII	12	20 %
5	Final Examination	17	50 %
	Total		100%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice (include amount of time teaching staff are expected to be available each week).

- The office hours (10 hours/Week, Sunday to Thursday, between 9 AM and 3 PM) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
- Students are encouraged to consult the faculty for queries or clarifications related to the lectures, assignments, homework, exercises, and laboratory.
- The faculty is required to be available in his office during the office hours for academic advice.
- Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students.

E. Learning Resources

1. List Required Textbooks

Sebesta R. "Concepts of Programming Languages" Pearson; 11 edition (February 16, 2015)

2. List Essential References Materials (Journals, Reports, etc.)

- Students can update their knowledge by visiting different websites related on computer based programming and tools

3. List Recommended Textbooks and Reference Materials (Journals, Reports, etc.)

<ul style="list-style-type: none">• Book 2 ESSENTIALS OF PROGRAMMING LANGUAGES, Daniel P. Friedman and Mitchell Wand, Third Edition, 2008
4. List Electronic Materials (e.g., Web Sites, Social Media, Blackboard, etc.) <ul style="list-style-type: none">• Search through Google for related topics.
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) <ul style="list-style-type: none">• Lecture room equipped with blackboard, overhead projector, computer, and internet connection
2. Computing resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none">• Updated course syllabus uploaded in the LMS (Learning Management System) Blackboard for reference.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) <ul style="list-style-type: none">• Lecture slides for the course are uploaded in the Blackboard

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">• Students are required to submit individual feedback questionnaires at the end of the course. Feedback is elicited on the instructor's course management and planning, preparedness for class sessions, communication ability, teaching skills, and interaction with the students, evaluation of exams and assignments, and personal characteristics.• Students are requested to provide a general evaluation of the course on a 5-point scale (student rating)• Students are also encouraged to write their comments on the instructor's overall handling of the course.• Classroom group interviews are conducted periodically to access the strengths and weaknesses of the course and teaching activities.
2. Other Strategies for Evaluation of Teaching by the Program/Department Instructor

- To provide a wider dimension to the evaluation of quality of teaching, courses, curriculum, and program, exit interviews from outgoing graduates and an analysis of the alumni feedbacks are carried out.
- Employer ratings of the graduates based on measures such as knowledge, perception, communication, personal proficiency, and employment skills are analyzed to draw specific inferences about individual teaching effectiveness.
- Curriculum committee meets regularly to review the content of the course and assessment methods.
- Final year students of the program are requested to provide a separate feedback on their overall experience, and to evaluate the various aspects of learning.
- Peer observation of in-class teaching is done periodically to evaluate those aspects of teaching that cannot be provided by the students such as instructor's content knowledge, delivery, and teaching methods.
- As part of faculty self-assessment, course instructors are requested to prepare the faculty activity report, and also display their teaching objectives, activities, accomplishments, and failures.

3. Processes for Improvement of Teaching

- Organize workshop and seminars on effective teaching methodologies to enable instructors to improve their teaching skills. Faculty members should be encouraged to attend such courses arranged by the Deanship of Quality and Academic Development.
- Collaborate with international universities of repute and adopt the best teaching and learning practices.
- Peer review of teaching materials can be done to rate the quality of the course syllabus, instructional plans, texts, reading assignments, handouts, homework, and tests/projects. Teaching behaviors such as fairness, grading practices, ethics, and professionalism may also be included.
- Mid-course and periodic student feedback may be solicited from the students to improve the effectiveness of teaching. Instructors' may also ask the students to provide informal assessments of their teaching effectiveness. Instructors may take some corrective action, if necessary, based on the feedback provided from the students.
- The college committee may also suggest improvements based on the feedback report and faculty self-assessment.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The academic committee of the department frames the guidelines for the standards. The course committee oversees that the guidelines are followed by the course instructors.
- External reviewers from a reputable university shall be invited to evaluate the course materials and students' work, and also review the grading policy.
- The *knowledge-area* heads carry out a self-assessment of the program biennially. A report based on the feedback of various stakeholders of the department that includes employers, alumni, faculty, and graduating students, and also the assessment of the external evaluators is prepared. Based on this

report, the department chair suggests the necessary steps to be taken for the improvement of the program in the subsequent years.

- The Deanship of Quality and Academic Development reviews the various procedures of the department for quality assurance, and monitors the progress of program accreditation.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The course instructors meet periodically to discuss the improvements that can be done in the delivery of the course.
- The Deanship of Quality and Academic Development, after careful analysis of all the feedbacks, submits its suggestions and recommendations to the Quality Committee of the department. Course reports and recommendations of the instructors are also taken into consideration.
- Based on the reports and recommendations, the curriculum committee places its suggestions and modifications for the program or course to the department council for approval. After approval, the department chair forwards it to the college council for ratification and final approval by the faculty deanship.

Signature: ___Dr Talal___ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature:

Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Design and Analysis of Algorithms, 432--CCS-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Science			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 8/ FourthYear			
6. Pre-requisites for this course (if any): 331--CCS-3. Data Structures and Algorithm			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

This core course teaches students the techniques for effective problem solving in computing. The use of different paradigms like greedy approach, divide and conquer, dynamic programming, branch and bound are used in problem solving to illustrate clever and efficient ways to solve a given problem. In each case emphasis will be placed on rigorously proving correctness of the algorithm by choosing appropriate data structures and designing correct and efficient algorithms to operate on these data structures. In addition, the analysis of the algorithm will be used to show the efficiency of the algorithm over the naive techniques, thereby the students will be able to practice their skills on these algorithms and data structures designed to solve real-life problems

After completion of the course, the students should be able to:

1. select algorithms appropriate to particular purpose and to apply them, recognizing the possibility that no suitable algorithm may exist.
2. address an important set of well-defined problems, recognizing their strengths and weaknesses, and their suitability in particular contexts,
3. solve problems, through a new range of paradigms and techniques to design algorithms.
4. to be efficient in their work.
5. Understand the complexities of various problems under different domains.

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

25. Revision of course content to incorporate latest developments in the area of subject
26. Modifications and revisions in lecture notes, exercises, examples
27. E-books will be made available to students through LMS blackboard

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course covers the design and analysis of algorithms and it involves

- (a) finding an algorithm to solve the given problem,
- (b) proving, that the algorithm solves the problem correctly,

(c) showing that the problem cannot be solved any faster, and

(d) implementing the algorithm.

Designing an algorithm for a computational problem involves knowledge of the problem domain, a thorough knowledge of the data structures that are available and suitable and a good measure of creativity. This course concentrates on the above issues. The course will also cover useful algorithmic design techniques, and methods for analyzing algorithms.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction to Analysis of Algorithm Design and analysis fundamentals, performance analysis, space and time complexity, Growth of function – Big-Oh, Omega, Theta notation, Mathematical background for algorithm analysis, randomized and recursive algorithm	2	4
Divide and Conquer General method, Binary Search, finding the min and max, Merge sort analysis, Quick sort, Performance measurement, Randomized version of quick sort and analysis, Partitioned algorithm selection sort, radix Sort Efficiency considerations, Strassen's matrix multiplication.	2	4
Greedy Method General method, Knapsack problem, Minimum cost spanning tree Kruskal and primal algorithm performance analysis, Single source shortest path, Job sequencing with deadlines, optimal storage on tapes.	3	6
Dynamic Programming The General method, Multistage graphs, All pair shortest paths, single source, shortest paths, Optimal BST, 0/1 knapsack, TSP, flow shop scheduling.	3	6
Backtracking and Graph Algorithm The general method, 8 queen problem, sum of subsets, graph coloring, Hamiltonian cycles, Knapsack problem. Graph traversals- connected components – spanning trees- Bi-connected components. Minimum Spanning Trees, Shortest Paths(Dijkstra, Belman Ford)	3	6
Hard problems and Approximation algorithms, Problem Classes: P, NP, NP-hard and NP Complete	1	2
Revision	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact	Planned	30	30				60
Hours	Actual	30	15				45
Credit	Planned	2	4				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the methodologies of how to analyze an algorithm	Interactive Lectures, Tutorial Activities,	Assignments Quizzes
1.2	Describe expressions for the best and worst-case running time of algorithms	Assignments and Quizzes	Tutorial Activity
2.0	Cognitive Skills		
2.1	Evaluate the basic concepts of time and space complexity for divide and conquer strategy, dynamic programming, greedy and approximate algorithms and amortized analysis	Interactive Lectures, Tutorial Activities, Assignments, Quizzes and Brainstorming	Assignments Quizzes Tutorial Activity
2.2	Analyze the complexities of Algorithms		
3.0	Interpersonal Skills & Responsibility		

3.1	Develop algorithmic paradigms and methods by using design techniques to solve real world problems	Interactive Lectures, Tutorial Activities, Assignments, group discussion and Brainstorming	Assignments Quizzes Tutorial Activity
3.2	Justify and analyze algorithmic tradeoffs: time vs. space, deterministic vs. randomized, and exact vs. approximate	Interactive Lectures, Tutorial Activities, Assignments, group discussion and Brainstorming	Assignments Quizzes Tutorial Activity
4.0	Communication, Information Technology, Numerical		
4.1	Illustrate analysis and design of algorithms concepts in both oral and written ways	Assignments, Tutorial Activities	Assignments Quizzes Tutorial Activity
5.0	Psychomotor		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	3,6 and 9	6 %
2	Quiz	4 and 10	4%
3	Mid Term Exam I	7	15 %
4	Mid Term Exam II	14	15 %
5	Tutorial/Project	7, 14	10%
6	Final Exam	17	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

The Teaching staff is allotted 10 office hours/Week for student consultation.

The Teaching staff makes use of Black Board services for communication with the students.

E Learning Resources

1. List Required Textbooks

Introduction to Algorithms, 3rd Edition, T. H. Cormen, C.E. Leiserson, R. L. Rivest and C. Stein, The MIT Press, 2009

2. List Essential References Materials (Journals, Reports, etc.)

- **Cormen Leiserson and Rivest, Algorithms, MIT Press 2001**
- **Robert Sedgewick, “Algorithm in C++”, Pearson Education, 2008**
- **Elis Horowitz and Sartaj Sahani, “Fundamental of Computer Algorithms” Galgotia Publications,1998**
- **Saara Base and Allen Van Gelder,” Computer Algorithms Introduction to Design and Analysis”, Pearson Education 1999**

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

CDs accompanied with the text book, power point lectures and essential references

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms are already provided but it should be fully equipped with projectors.

2. Technology resources (AV, data show, Smart Board, software, etc.) High configuration computers with LCD projector
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Online internet facility for accessing study materials Fully fledged department as well as central libraries

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">• Distribution of feedback forms at the end of semester to students.• Head of the Department review overall course deficiencies based on the student evaluation, faculty input, course file, and program assessment.• Feedback from employers and alumni surveys and graduating students' input are used to identify any deficiencies in students' ability in applying knowledge of CS in professional life.• Student course evaluation at the conclusion of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures. <ul style="list-style-type: none">• Frequently conducting departmental meetings.• Student attendance is closely monitored• Student feedback is considered for teaching evaluation• Mid Term Exam/Assignments/Homework determine the standard of teaching and become a milestone for teaching evaluation
3. Processes for Improvement of Teaching <ul style="list-style-type: none">• Regular Seminars are arranged in the college of computer science in which each faculty member has to participate.• Training of faculty members on different softwares/hardware is facilitated.• Blackboard E-Learning system is introduced.• Students are getting trained to use E-Learning material.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Student exam question papers are checked by the Head of Computer Dept.
- Answer sheets are checked by the faculty member who is teaching the course in coordination with the other faculty member, if he is engaged for teaching another group of the same course

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established course Coordinators who will be entrusted with the primary duty of to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students. Additionally, course coordinators will also review the assessment of the external evaluators to propose actions to be taken for the improvement of the program. Course Coordinators will propose the recommended actions to the department chair for the improvement of the program.

Name of Course Coordinator: Dr Abeer

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Software Testing and Quality Assurance

Course Specifications

Institution: King Khalid University	Date: February 24, 2019
College/Department : Computer Science	

A. Course Identification and General Information

1. Course title and code: Software Testing and Quality Assurance , 442--CCS-3			
2. Credit hours: 3Hours (2 Lecture + 1 Practical)			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course. Dr. Yessine			
5. Level/year at which this course is offered: Level			
6. Pre-requisites for this course (if any): 341--CCS-3, Principles of Software Engineering			
7. Co-requisites for this course (if any): Graduation Project			
8. Location if not on main campus: CS program branches			
9. Mode of Instruction (mark all that apply):			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. Blended (Traditional and Online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-Learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments: The assessment part of this course i.e., quizzes / assignments are conducted through LMS: The BlackBoard portal of KKU's IT System

B Objectives

1. What is the main purpose for this course?

The aim of this course is to learn:

1. Quality Assurance & Review Techniques,
2. Defect Prevention and Removal,
3. Testing Strategies,
4. Testing Conventional Object Oriented an web Applications Techniques,

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or Web based reference material, changes in content as a result of new research in the field)

- The course is supported with the Learning Management System (Blackboard).
- There will be a discussion board on each unit of the course, where students can share and discuss their ideas, and also clarify doubts. Students must participate in graded discussion board to get marks.
- Class room attendance and Blackboard activities will also be closely monitored.
- To assess the students, there will be assignment, quiz and graded discussion board at the end of each unit.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

The aim and objective of this course is to teach students the concepts and skills needed for SQA and Testing. Software quality assurance is viewed as an activity that runs through the entire development process. It encompasses activities and related techniques to ensure the implementation of appropriate functionality that satisfy the requirements/needs of its targeted client/users for the intended software system, product, or service as the case may be, both correctly and efficiently.

1. Topics to be covered

	No. of Weeks	Contact Hours
List of topics to be delivered in the theory lecture classes:		

Quality Concepts <ul style="list-style-type: none"> ▪ Software Quality ▪ Achieving Software Quality ▪ The Software Quality Dilemma ▪ Achieving Software Quality 	2	4
REVIEW TECHNIQUES <ul style="list-style-type: none"> ▪ Cost Impact of Software Defects ▪ Defect Amplification and Removal ▪ Review Metrics and Their Use ▪ Reviews: A Formality Spectrum ▪ Informal Reviews ▪ Formal Technical Reviews 	2	4
SOFTWARE QUALITY ASSURANCE <ul style="list-style-type: none"> ▪ Elements of Software Quality Assurance ▪ SQA Tasks, Goals, and Metrics ▪ Formal Approaches to SQA ▪ Statistical Software Quality Assurance ▪ Software Reliability ▪ The ISO 9000 Quality Standards ▪ The SQA Plan 	2	4
SOFTWARE TESTING STRATEGIES <ul style="list-style-type: none"> ▪ A Strategic Approach to Software Testing ▪ Strategic Issues ▪ Test Strategies for Conventional Software ▪ Test Strategies for Object-Oriented Software ▪ Test Strategies for WebApps ▪ Validation Testing ▪ The Art of Debugging 	2	4
TESTING CONVENTIONAL APPLICATIONS <ul style="list-style-type: none"> ▪ Software Testing Fundamentals ▪ Internal and External Views of Testing ▪ White-Box Testing ▪ Basis Path Testing ▪ Control Structure Testing ▪ Black-Box Testing ▪ Model-Based Testing ▪ Testing for Specialized Environments, Architectures, and Applications ▪ Patterns for Software Testing 	2	4

TESTING OBJECT-ORIENTED APPLICATIONS <ul style="list-style-type: none"> ▪ Broadening the View of Testing ▪ Testing OOA and OOD Models ▪ Object-Oriented Testing Strategies ▪ Object-Oriented Testing Methods ▪ Testing Methods Applicable at the Class Level ▪ Interclass Test-Case Design 	2	4
TESTING WEB APPLICATIONS <ul style="list-style-type: none"> ▪ Testing Concepts for WebApps ▪ The Testing Process—An Overview ▪ Content Testing ▪ User Interface Testing ▪ Component-Level Testing ▪ Navigation Testing ▪ Configuration Testing ▪ Security Testing ▪ Performance Testing 	2	4
Revision	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code#	NQF Learning Domains	Course Teaching	Course Assessment
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	And Course Learning Outcomes	Strategies	Methods
1.0	Knowledge		
1.1	State the principles of and motivation behind Software Testing and Quality Assurance	Lectures, Class Discussions	Exams, Quizzes, Assignments
2.0	Cognitive		
2.1	Employ correct testing terminology throughout the testing process.	Lectures	Exams, Quizzes, Assignments
2.2	Execute specific software tests with well-defined objectives and targets.	Lectures and Laboratory Activities	Exams, Assignments, Lab Exercises
2.3	Apply various testing techniques, including domain, code, fault, usage and model-based.	Lectures and Laboratory Activities	Exams, Assignments, Lab Exercises
2.4	Efficiently perform QA activities using modern software tools	Lectures and Laboratory Activities	Exams, Assignments, Lab Exercises
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate the ethical and professional responsibilities in software testing team.	Case Studies	Group Work / Discussion / Project
4.0	Communication, Information Technology, Numerical		
4.1	Illustrate the metrics of software quality assurance and test strategies in both oral and written ways.	Case Studies	Group Work / Discussion / Project
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Theory		
	• Mid-Term Exam-I	6	10%
	• Project	12	10%
	• Assignment and Quizzes	4, 8	10%
2	Practical		

	• Final Lab Exam	14	10%
	• Lab Activities	Weekly	10%
3	Final Examination		50%
4	Total Marks		100%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Office hours (10 hours/Week, Sunday to Thursday, between 9 AM and 3 PM) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
- Students are encouraged to consult the faculty for queries or clarifications related to the lectures, assignments, homework, exercises, and laboratory.
- Faculty has to be available in his office during the office hours for academic advice.
- Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students.

E. Learning Resources

1. List Required Textbooks

Software Engineering: A Practitioner's Approach, 8th Edition, 2014, by Roger S. Pressman , Bruce Maxim (Author), ISBN-13: 978-0078022128 ISBN-10: 9780078022128

2. List Essential References Materials (Journals, Reports, etc.)

Software Testing and Quality Assurance: Theory and Practice 1st Edition., 2008, by Kshirasagar Naik, Priyadarshi Tripathy, ISBN-13: 978-0471789116, ISBN-10: 0471789119

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

King Khalid University renders online electronic learning and assessment Web-based applications for the students and faculties. Occasionally, the students are provided with the names of relevant Websites to refer to seek guidance in coursework tasks and studies.

All lecture notes and PowerPoint slides of the class lectures are available to the students on the Blackboard system.

<http://lms.kku.edu.sa/>

<http://www.sei.cmu.edu>

<http://www.agile.csc.ncsu.edu/SEMaterials>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Syllabus with all chapters, assignments, and handouts is made available on the Blackboard for students' reference.

<http://codecourse.sourceforge.net/materials/Software-Engineering-Theory-and-Practice.pdf>

<http://www.rational.com/uml>

<http://www.softeng.uwaterloo.ca>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms and laboratories of appropriate space, ventilation, furniture, electronic appliances and computing equipment are available as per the university's norms. Ratio of computers to students is perfectly 1:1.
2. Technology resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none">- Windows Operating System,- Computers with LAN/WAN facility- Rational Rose and UML Modeling software tools
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list). There is a need to upgrade/renew the projector devices and screens; provision of remote controls or pointed-sticks to faculty members for switching on the projectors; high-speed uninterrupted Wi-Fi Internet access needs to be enabled in classrooms.

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">• Students are required to submit individual feedback questionnaires at the end of the course. Feedback is elicited on the instructor's course management and planning, preparedness for class sessions, communication ability, teaching skills, and interaction with the students, evaluation of exams and assignments, and personal characteristics.• Students are requested to provide a general evaluation of the course on a 5-point scale (student rating)• Students are also encouraged to write their comments on the instructor's overall handling of the course.• Classroom group interviews are conducted periodically to assess the strengths and weaknesses of the course and teaching activities.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department Frequently conducting departmental meetings. <ul style="list-style-type: none">• To provide a wider dimension to the evaluation of quality of teaching, courses, curriculum, and program, exit interviews from outgoing graduates and an analysis of the alumni feedbacks are carried out.

- Employer ratings of the graduates based on measures such as knowledge, perception, communication, personal proficiency, and employment skills are analyzed to draw specific inferences about individual teaching effectiveness.
- Curriculum committee meets regularly to review the content of the course and assessment methods.
- Final year students of the program are requested to provide a separate feedback on their overall experience, and to evaluate the various aspects of learning.
- Peer observation of in-class teaching is done periodically to evaluate those aspects of teaching that cannot be provided by the students such as instructor's content knowledge, delivery, and teaching methods.
- As part of faculty self-assessment, course instructors are requested to prepare the faculty activity report, and also display their teaching objectives, activities, accomplishments, and failures.

3. Processes for Improvement of Teaching.

- Give more examples to understand the concept of functional and non-functional requirements.
- Prepare novel proposal projects for students.
- Equip students with the supporting materials such as mini-projects' guidelines, hands-on sessions on how to design and construct prototypes, conduct feasibility reports, systems' testing strategies and so on.
- Organize workshop and seminars on effective teaching methodologies to enable instructors to improve their teaching skills. Faculty members should be encouraged to attend such courses arranged by the Deanship of Quality and Academic Development.
- Collaborate with international universities of repute and adopt the best teaching and learning practices.
- Peer review of teaching materials can be done to rate the quality of the course syllabus, instructional plans, texts, reading assignments, handouts, homework, and tests/projects. Teaching behaviors such as fairness, grading practices, ethics, and professionalism may also be included.
- Mid-course and periodic student feedback may be solicited from the students to improve the effectiveness of teaching. Instructors' may also ask the students to provide informal assessments of their teaching effectiveness. Instructors may take some corrective action, if necessary, based on the feedback provided from the students.
- The college committee may also suggest improvements based on the feedback report and faculty self-assessment.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an

independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The academic committee of the department frames the guidelines for the standards. The course committee oversees that the guidelines are followed by the course instructors.
- External reviewers from a reputable university shall be invited to evaluate the course materials and students' work, and also review the grading policy.

- The knowledge-area heads carry out a self-assessment of the program biennially. Report based on the feedback of various stakeholders of the department that includes employers, alumni, faculty, and graduating students, and also the assessment of the external evaluators is prepared. Based on this report, the department chair suggests the necessary steps to be taken for the improvement of the program in the subsequent years.
- The Deanship of Quality and Academic Development reviews the various procedures of the department for quality assurance, and monitors the progress of program accreditation.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The course instructors meet periodically to discuss the improvements that can be done in the delivery of the course.
- The Deanship of Quality and Academic Development, after careful analysis of all the feedbacks, submits its suggestions and recommendations to the Quality Committee of the department. Course reports and recommendations of the instructors are also taken into consideration.
- Based on the reports and recommendations, the curriculum committee places its suggestions and modifications for the program or course to the department council for approval. After approval, the department chair forwards it to the college council for ratification and final approval by the faculty deanship.

Name of Course Instructor: Dr. Yessine HadjKacem

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Principles of Software Engineering

Course Specifications

Institution: King Khalid University	Date: February 24, 2019
College/Department : Computer Science	

A. Course Identification and General Information

1. Course title and code: 443--CCS-3, Software Design and Architecture			
2. Credit hours: 3Hours (2 Lecture + 1 Practical)			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course. Dr. Yessine			
5. Level/year at which this course is offered: Level			
6. Pre-requisites for this course (if any): 341--CCS-3, Principles of Software Engineering			
7. Co-requisites for this course (if any): Graduation Project			
8. Location if not on main campus: CS program branches			
9. Mode of Instruction (mark all that apply):			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. Blended (Traditional and Online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-Learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments: The assessment part of this course i.e., quizzes / assignments are conducted through LMS: The BlackBoard portal of KKU's IT System

B Objectives

1. What is the main purpose for this course?

The aim of this course is to learn:

- The basic concepts of software engineering, and provide a framework for understanding the software engineering production processes.
- The idea of software process and process models.
- The software system requirements and the activities involved in the requirements engineering process.
- The agile development methodology
- The System models that are designed in the software life cycle.

2. Briefly describe any plans for developing and improving the course that are being implemented.

(e.g. increased use of IT or Web based reference material, changes in content as a result of new research in the field)

- The course is supported with the Learning Management System (Blackboard).
- There will be a discussion board on each unit of the course, where students can share and discuss their ideas, and also clarify doubts. Students must participate in graded discussion board to get marks.
- Class room attendance and Blackboard activities will also be closely monitored.
- To assess the students, there will be assignment, quiz and graded discussion board at the end of each unit.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

This course covers the main knowledge areas of software engineering such as basics of software development, software processes, requirement engineering and system modeling. Agile method, plan-driven and extreme programming processes are presented. UML models and some case studies will be also discussed. The course describes also some methods for specifying software requirements.

1. Topics to be covered

List of topics to be delivered in the theory lecture classes:	No. of Weeks	Contact Hours

<p>DESIGN CONCEPTS</p> <p>Design within the Context of Software Engineering</p> <p>The Design Process</p> <p>Design Concepts</p> <p>The Design Model</p>	2	4
<p>ARCHITECTURAL DESIGN</p> <p>Software Architecture</p> <p>Architectural Genres</p> <p>Architectural Styles</p> <p>Architectural Design</p> <p>Assessing Alternative Architectural Designs</p> <p>Architectural Mapping Using Data Flow</p>	3	6
<p>COMPONENT-LEVEL DESIGN</p> <p>What Is a Component?</p> <p>Designing Class-Based Components</p> <p>Conducting Component-Level Design</p> <p>Component-Level Design for WebApps</p> <p>Designing Traditional Components</p> <p>Component-Based Development</p>	3	6
<p>USER INTERFACE DESIGN</p> <p>The Golden Rules</p> <p>User Interface Analysis and Design</p> <p>Interface Analysis</p> <p>Interface Design Steps</p> <p>WebApp Interface Design</p> <p>Design Evaluation</p>	3	6

PATTERN-BASED DESIGN		
Design Patterns Pattern-Based Software Design Architectural Patterns Component-Level Design Patterns User Interface Design Patterns WebApp Design Patterns	3	6
Group Project Presentation	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		15			45
Credit	Planned	2		2			4
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code#	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Recognize architectural elements in a reference architecture	Lectures, Class Discussions	Exams, Quizzes, Assignments

1.2	Understand the role of a software architect in software engineering practice	Lectures	
2.0	Cognitive		
2.1	Demonstrate a firm understanding of the principles of software architecture, architectural best-practices, and how architecture is used in modern software engineering	Lectures	Exams, Quizzes, Assignments
2.2	Examine and compare various architecture styles and solutions	Lectures and Laboratory Activities	Exams, Assignments, Lab Exercises
2.3	Design an architecture that reflects and balances the different needs of its stakeholders	Lectures and Laboratory Activities	Exams, Assignments, Lab Exercises
3.0	Interpersonal Skills & Responsibility		
3.1	Work effectively as part of a team to build the system from the components	Case Studies	Group Work / Discussion / Project
4.0	Communication, Information Technology, Numerical		
4.1	Express and present a software design in a software design document	Case Studies	Group Work / Discussion / Project
4.2	Communicate the architecture to stakeholders	Case Studies	Group Work / Discussion / Project
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Theory		
	• Mid-Term Exam-I	6	10%
	• Project	12	10%
	• Assignment and Quizzes	4, 8	10%
2	Practical		
	• Final Lab Exam	14	10%
	• Lab Activities	Weekly	10%

3	Final Examination		50%
4	Total Marks		100%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Office hours (10 hours/Week, Sunday to Thursday, between 9 AM and 3 PM) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
- Students are encouraged to consult the faculty for queries or clarifications related to the lectures, assignments, homework, exercises, and laboratory.
- Faculty has to be available in his office during the office hours for academic advice.
- Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students.

E. Learning Resources

1. List Required Textbooks

Software Engineering: A Practitioner's Approach, 8th Edition, 2014, by Roger S. Pressman , Bruce Maxim (Author), ISBN-13: 978-0078022128 ISBN-10: 9780078022128

2. List Essential References Materials (Journals, Reports, etc.)

“Software Design: From Programming to Architecture” by Eric J. Braude, John Wiley & Sons, 2004, ISBN: 0 – 471- 42920 -1

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

King Khalid University renders online electronic learning and assessment Web-based applications for the students and faculties. Occasionally, the students are provided with the names of relevant Websites to refer to seek guidance in coursework tasks and studies.

All lecture notes and PowerPoint slides of the class lectures are available to the students on the Blackboard system.

<http://lms.kku.edu.sa/>

<http://www.sei.cmu.edu>

<http://www.agile.csc.ncsu.edu/SEMaterials>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Syllabus with all chapters, assignments, and handouts is made available on the Blackboard for students' reference.

<http://codecourse.sourceforge.net/materials/Software-Engineering-Theory-and-Practice.pdf>

<http://www.rational.com/uml>

<http://www.softeng.uwaterloo.ca>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms and laboratories of appropriate space, ventilation, furniture, electronic appliances and computing equipment are available as per the university's norms. Ratio of computers to students is perfectly 1:1.
2. Technology resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none">- Windows Operating System,- Computers with LAN/WAN facility- Rational Rose and UML Modeling software tools
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list). There is a need to upgrade/renew the projector devices and screens; provision of remote controls or pointed-sticks to faculty members for switching on the projectors; high-speed uninterruptable Wi-Fi Internet access needs to be enabled in classrooms.

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">• Students are required to submit individual feedback questionnaires at the end of the course. Feedback is elicited on the instructor's course management and planning, preparedness for class sessions, communication ability, teaching skills, and interaction with the students, evaluation of exams and assignments, and personal characteristics.• Students are requested to provide a general evaluation of the course on a 5-point scale (student rating)• Students are also encouraged to write their comments on the instructor's overall handling of the course.• Classroom group interviews are conducted periodically to assess the strengths and weaknesses of the course and teaching activities.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department Frequently conducting departmental meetings. <ul style="list-style-type: none">• To provide a wider dimension to the evaluation of quality of teaching, courses, curriculum, and program, exit interviews from outgoing graduates and an analysis of the alumni feedbacks are carried out.

- Employer ratings of the graduates based on measures such as knowledge, perception, communication, personal proficiency, and employment skills are analyzed to draw specific inferences about individual teaching effectiveness.
- Curriculum committee meets regularly to review the content of the course and assessment methods.
- Final year students of the program are requested to provide a separate feedback on their overall experience, and to evaluate the various aspects of learning.
- Peer observation of in-class teaching is done periodically to evaluate those aspects of teaching that cannot be provided by the students such as instructor's content knowledge, delivery, and teaching methods.
- As part of faculty self-assessment, course instructors are requested to prepare the faculty activity report, and also display their teaching objectives, activities, accomplishments, and failures.

3. Processes for Improvement of Teaching.

- Give more examples to understand the concept of functional and non-functional requirements.
- Prepare novel proposal projects for students.
- Equip students with the supporting materials such as mini-projects' guidelines, hands-on sessions on how to design and construct prototypes, conduct feasibility reports, systems' testing strategies and so on.
- Organize workshop and seminars on effective teaching methodologies to enable instructors to improve their teaching skills. Faculty members should be encouraged to attend such courses arranged by the Deanship of Quality and Academic Development.
- Collaborate with international universities of repute and adopt the best teaching and learning practices.
- Peer review of teaching materials can be done to rate the quality of the course syllabus, instructional plans, texts, reading assignments, handouts, homework, and tests/projects. Teaching behaviors such as fairness, grading practices, ethics, and professionalism may also be included.
- Mid-course and periodic student feedback may be solicited from the students to improve the effectiveness of teaching. Instructors' may also ask the students to provide informal assessments of their teaching effectiveness. Instructors may take some corrective action, if necessary, based on the feedback provided from the students.
- The college committee may also suggest improvements based on the feedback report and faculty self-assessment.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an

independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The academic committee of the department frames the guidelines for the standards. The course committee oversees that the guidelines are followed by the course instructors.
- External reviewers from a reputable university shall be invited to evaluate the course materials and students' work, and also review the grading policy.

- The knowledge-area heads carry out a self-assessment of the program biennially. Report based on the feedback of various stakeholders of the department that includes employers, alumni, faculty, and graduating students, and also the assessment of the external evaluators is prepared. Based on this report, the department chair suggests the necessary steps to be taken for the improvement of the program in the subsequent years.
- The Deanship of Quality and Academic Development reviews the various procedures of the department for quality assurance, and monitors the progress of program accreditation.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The course instructors meet periodically to discuss the improvements that can be done in the delivery of the course.
- The Deanship of Quality and Academic Development, after careful analysis of all the feedbacks, submits its suggestions and recommendations to the Quality Committee of the department. Course reports and recommendations of the instructors are also taken into consideration.
- Based on the reports and recommendations, the curriculum committee places its suggestions and modifications for the program or course to the department council for approval. After approval, the department chair forwards it to the college council for ratification and final approval by the faculty deanship.

Name of Course Instructor: Dr. Yessine HadjKacem

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



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National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS

(CS)

Subject Code:

Subject Name: Software Project Management

Course Specifications

Institution: King Khalid University Abha	Date:
College/Department : College of computer Science / Department of computer Science	

A. Course Identification and General Information

1. Course title and code: Software Project Management, 444--CCS-3			
2. Credit hours: 3Hours			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course: 341--CCS-3, Principles of Software Engineering			
5. Level/year at which this course is offered:			
6. Pre-requisites for this course (if any):			
7. Co-requisites for this course (if any): NA			
8. Location if not on main campus: All Cs program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

Lectures are taken traditionally – White board

Assignments are posted through blackboard – submit the same – Handwritten

Quizzes – Classroom - Paper

Tutorial Exercises –during theory classes at end of the every chapter, from chapter2 onwards.

B Objectives

1. What is the main purpose for this course?

The course introduces the students to the various concepts and methodologies of Project Management. Upon successful completion of this course, students will be able to

- divide a project in a set activities with a schedule
- estimate a project cost
- select the appropriate project approach
- manage the risk related to a software project

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- The course is supported with LMS system (Black board).
- Class room attendance and Black board activities are closely monitored.
- Two mid exam and One small project is implemented
- To assess the students, there will be assignment, quiz.

Tutorial sessions and exercises.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course covers the main knowledge areas of project management (time, cost, quality, scope, risk, human resources, communications, etc.) by focusing on software projects. Project planning, cost estimation (using COCOMO and FPs), earned-value analysis techniques and scheduling are presented. Software project Risk management will be also discussed. The course describes also some methods for resource allocation.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact Hours

<p>Chapter 1 Introduction to software project management</p> <p>1.1Introduction 1.2Why is software project management important? 1.3What is a project? 1.4 Software projects versus other types of project 1.5Contract management and technical project management 1.6 Activities covered by software project management 1.7 Plans, methods and methodologies 1.8 Project success and failure</p>	1	2 hrs.
<p>Chapter 2 Project evaluation and program management</p> <p>2.1Introduction 2.2A business case 2.3 Project portfolio management 2.4Evaluation of individual projects 2.5Cost–benefit evaluation techniques 2.6 Risk evaluation 2.7Program management 2.8Managing the allocation of resources within program 2.9Strategic program management</p>	1	2 hrs.
<p>Chapter 3: An overview of project planning</p> <p>Introduction to Step Wise project planning Step 0: Select project Step 1: Identify project scope and objectives Step 2: Identify project infrastructure Step 3: Analyse project characteristics Step 4: Identify project products and activities Step 5: Estimate effort for each activity Step 6: Identify activity risks Step 7: Allocate resources Step 8: Review/publicize plan Steps 9 and 10: Execute plan/lower levels of planning</p>	1	2 hrs.

<p>Chapter 4 Selection of an appropriate project approach</p> <p>Introduction Build or buy? Choosing methodologies and technologies Choice of process models Structure versus speed of delivery Selecting the most appropriate process mode</p>	<p>1</p>	<p>2 hrs.</p>
<p>Chapter 5: Software effort estimation</p> <p>Introduction Where are estimates done? Problems with over- and under-estimates The basis for software estimating Software effort estimation techniques Bottom-up estimating The top-down approach and parametric models Expert judgment Estimating by analogy Albrecht function point analysis Function points Mark II COSMIC full function points COCOMO 13: a parametric productivity model</p>	<p>2</p>	<p>4 hrs.</p>

<p>Chapter 6 Activity planning</p> <p>Introduction</p> <p>The objectives of activity planning</p> <p>When to plan</p> <p>Project schedule</p> <p>Projects and activities</p> <p>Sequencing and scheduling activities</p> <p>Network planning models</p> <p>Formulating a network model</p> <p>Adding the time dimension</p> <p>The forward pass</p> <p>The backward pass</p> <p>Identifying the critical path</p> <p>Activity float</p> <p>Shortening the project duration</p> <p>Identifying critical activities</p> <p>Activity-on-arrow networks</p>	<p>2</p>	<p>4 hrs</p>
<p>Chapter7 Risk management</p> <p>Introduction</p> <p>Risk</p> <p>Categories of risk</p> <p>A framework for dealing with risk</p> <p>Risk identification</p> <p>Risk assessment</p> <p>Risk planning</p> <p>Risk management</p> <p>Evaluating risks to the schedule</p> <p>Applying the PERT technique</p> <p>Monte Carlo simulation</p> <p>Critical chain concepts</p>	<p>1</p>	<p>2 hrs.</p>

Chapter 8 Resource allocation		
Introduction The nature of resources Identifying resource requirements Scheduling resources Creating critical paths Counting the cost Being specific Publishing the resource schedule Cost schedules The scheduling sequence	1	2 hrs.

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	30				60
	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Recognize the advanced concepts of software project management.	Lectures, Tutorial and Self study	Examination, test, quizzes and assignments.
1.2	Explain advanced topics such as software project cost and price, Quality Management, Software Testing Strategies and Process Improvement	Lectures, Tutorial and Self study	Examination, test, quizzes and assignments.
2.0	Cognitive Skills		
2.1	Manage the selection and initiation of individual projects and of portfolios of projects in the enterprise.	Problems are solved in theory and Lab / Tutorial Hour. Same type of questions were given for further understanding	Examination, test, quizzes, assignments.
2.2	Estimate, plan, calculate, and adjust project variables	Problems are solved in theory and Lab / Tutorial Hour. Same type of questions were given for further understanding	Practical examination and assignments.
2.3	Apply different techniques in monitoring and control of project and people.	Problems are solved in theory and Lab / Tutorial	Practical examination and assignments.

		Hour. Same type of questions were given for further understanding	
3.0	Interpersonal Skills & Responsibility		
3.1	Analyze the concepts to employ to real life project applications.	Lectures, Seminars and projects	Examination, test, quizzes, assignments.
3.2	Incorporate professional, ethical, and legal issues involved in a software project management.	Theory and Lab / Tutorial	Class discussions, Homework Assignments, Project based questions
4.0	Communication, Information Technology, Numerical		
4.1	Use the standard methods to prepare a project plan and discuss the same during discussion time.	Theoretical courses with real examples Multiple exercises for each new concept	Exams, exercises solving during tutorial hours.
4.2			
5.0	Psychomotor		
5.1	N/A		
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quizzes	Monthly	4%
2	Assignments	Topics/Monthly/ Weekly	6%
3	MID - Term Theory Exam	Within the 7 th / 12 th Week	30%
5	Tutorial Exercises / Activity	monthly	10%
8	Final Exam	As scheduled by the Registrar	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours = 10 hrs. / Week

Sunday to Thursday : Refer Faculty Time Table

E Learning Resources

1. List Required Textbooks

- **Software Engineering, 10th Edition, Sommerville, PEARSON, ISBN-13: 978-0133943030**
ISBN-10: 0133943038, 2015

2. List Essential References Materials (Journals, Reports, etc.)

- **“Software Project Management”, Bob Hughes and Mike Cotterel. 2009 5th Edition. The McGraw Hill Comp. ISBN-13: 978-0077122799 ISBN-10: 0077122798**

2. List Recommended Textbooks and Reference Material (Journals, Reports, etc)

- A Guide to Project Management. Body of Knowledge. Third Edition- PMBOK, an American National Standard. ANSI / PMI 99-001-2004

3. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)

- www.lms.kku.edu.sa
- www.sei.cmu.edu
- www.pmi.org
- www.projectmanagement.com/

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- Updated version of subject syllabus is uploaded for student reference on black board application

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Classroom with projector.

2. Computing resources (AV, data show, Smart Board, software, etc.)	N/A
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)	N/A

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching A well-designed feedback form is used by the faculty, which has both qualitative and quantitative components. The form covers the feedback on instructor's approach of teaching, his preparation for teaching and student perspective about him. It also details out the student's background Confidential completion of standard course evaluation questionnaire.
2. Other Strategies for Evaluation of Teaching by the Program/Department Instructor Students have direct access to head of the department (HoD) to discuss issues and problems. Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc. is also available.
3. Processes for Improvement of Teaching The students answer qualitatively few questions in the feedback form, where they can suggest learning problems and can give suggestions. Further, instructor also will carry out his own analysis from the results of evaluation, and will make judgments about what can be done better and how. The list of suggestions as an improvement for next time teaching will be used either by him or the other faculty teaching the course.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) Standards are set in the top down fashion. First the Academic Committee sets the general guidelines for the standards then the course committee implements those standards with the mutual consent of faculty members involved with the course.
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. Meeting with course teachers and Tutorial instructor to get the updates about course progress. Informal session with students to know their experience in the course.

Name of Course Instructor: Dr Mouna

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

453-CIS-3 Computer and Network Security

Course Specifications

Institution: King Khalid University	Date: 12 th February, 2019
College/Department : College of Computer Science/Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 453-CIS-3 – Computer and Network Security			
2. Credit hours: 3 (2+1)			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course Dr. Sarah Abu Ghazalah			
5. Level/year at which this course is offered: 2 nd Semester of 3 rd Year			
6. Pre-requisites for this course (if any): 371-CCS-3			
7. Co-requisites for this course (if any): Not Applicable			
8. Location if not on main campus: All campuses offering the Bachelors of Science in Computer Science			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

The Blackboard LMS will be used for Assignments, Discussion Forum, quizzes, lecture notes, announcements, etc.

B Objectives

1. What is the main purpose for this course?

The aim of this course is to introduce students with evolving field of cryptography in network security, the most common attacks, and widely used network security protocols and technologies. At the end of this course, students should have gained an understanding of the fundamentals of security, as well as an appreciation of the exiting attacks, malicious software, and countermeasures that are designed to protect from such attacks in computer and network.

2. Briefly describe any plans for developing and improving the course that are being implemented.

By the department community as:

- The course contents will be periodically reviewed by the coordinator to include new structural materials and test methods, as and when necessary.

By the instructor:

- Provide updated Learning Material through LMS
- Real scenarios and case studies
- Lab manual for the current network security technologies

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

We are living today in an era that involves interacting remotely with people, computers, and processes; since this connection is outside our control, data are at risk, where others can read, modify, and even disrupt communication, and hence the computers will be affected. This course covers the two sides of security: attacks and countermeasures. It is divided into eight parts. The first two part gives a brief introduction to network and information security. The third part presents cryptography, which forms the bases for network security protocols chapter, in addition to security technologies used in network such as firewalls, IDS, and VPN. Furthermore, most common attacks on computers and network are presented in Chapter 4 and 5. Cloud computing is a promising technology but from a security point of view, it is risky if it is not protected. Therefore, Chapter 7 demonstrates the risk and how it can be mitigated. Finally, actions that should be taken before and after attacks are discussed in the final Chapter.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Network Overview <ul style="list-style-type: none"> ▪ Overview of Network OSI Model ▪ Network Layer ▪ Delivery, Forwarding, Routing ▪ Wireless Network 	2	4
Fundamentals of Information Security <ul style="list-style-type: none"> ▪ Security Attributes ▪ Authentication and Authorization ▪ Access Permissions ▪ Taxonomy of Attacks ▪ Social Engineering 	2	4
Cryptography Primer <ul style="list-style-type: none"> ▪ Block cipher vs Stream cipher ▪ Symmetric Encryption ▪ RSA Public Key Cryptography ▪ Hash Functions ▪ One-Time Pads ▪ Key Management 	3	6
Insertion Attacks <ul style="list-style-type: none"> ▪ SQL Injection ▪ Buffer Overflow Attack ▪ Viruses ▪ Worms ▪ Trojan Horse 	2	4
Web Security <ul style="list-style-type: none"> ▪ Cross Site Scripting (XSS) ▪ Cross Site Request Forgery (XSRF, CSRF) ▪ Man-in-the-Browser 	1	2
Network Security <ul style="list-style-type: none"> ▪ Cryptography in Network Security ▪ Firewalls ▪ Virtual Private Networks (VPNs) ▪ Wireless Security ▪ Intrusion Detection Systems (IDS) ▪ Denial of Service 	3	6
Cloud Computing Security <ul style="list-style-type: none"> ▪ Cloud Computing Concepts ▪ Cloud Security Tools and Techniques ▪ Cloud Identity Management 	1	2
Management and Incidents <ul style="list-style-type: none"> ▪ Security Planning ▪ Business Continuity Planning ▪ Incidents Handling ▪ Risk Analysis 	1	2
Topics in Lab		
Preparation Lab	1	2

<ul style="list-style-type: none"> ▪ Install Kernel Operating System ▪ Install Virtual Machine (VMware) 		
Network Security <ul style="list-style-type: none"> ▪ Nmap ▪ Wireshark ▪ Firewall ▪ Snort ▪ Hping3 	4	8
Cryptography <ul style="list-style-type: none"> ▪ Crytool 	1	2
Password Cracking Tool <ul style="list-style-type: none"> ▪ Cain and Abel 	1	2
Social Engineering <ul style="list-style-type: none"> ▪ Htrack ▪ Social Engineering Toolkit 	2	4
General System Security <ul style="list-style-type: none"> ▪ Email Security ▪ Access control Permissions ▪ Browser Security 	2	4
Linux Security <ul style="list-style-type: none"> ▪ Linux Security Permissions ▪ Linux User Accounts ▪ Log Files 	2	4
Steganography	1	2
Email Security <ul style="list-style-type: none"> ▪ PGB ▪ S/MIME 	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Lab/Studio	Practical	Other:	Total
Contact Hours	Planed	30		30		0	60
	Actual	30		15		0	45
Credit	Planed	2		2		0	4
	Actual	2		1		0	3

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy			
Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Understand security principles	Lectures Group Discussion	Exams Quiz Assignment Presentation
1.2	Have a critical awareness of key security attacks		
1.3	Recognize the importance of the major information systems security tools such as authentication, access control, and cryptography in the context of the overall information systems.		
1.4	Describe the actions taken in managing threats		
2.0	Cognitive Skills		
2.1	Calculate cryptographic encryption and decryption operations	Lectures Lab	Exams Assignment Lab Project
2.2	Explain the privacy risks associated with cloud computing and their countermeasure		
2.3	Discuss the web attacks		
2.4	Justify the deployment of security technologies and protocols		
3.0	Interpersonal Skills & Responsibility		
3.1	Design a secure system against network attacks	Lectures Lab Group Work	Project Lab Assignment
4.0	Communication, Information Technology, Numerical		
4.1	Evaluate a secure system and assess the differences between security technological used.	Lectures Group Work	Project
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Project	10	10
2	Lab Activities + Assignment	Continuous	10
3	Lab Final Exam	13	10
4	First Mid- Term Theory Exam	6	10
5	Second Midterm Theory Exam	11	10
6	Final Examination	16	50

D. Student Academic Counseling and Support

<p>1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice.</p> <ul style="list-style-type: none"> ▪ Instructors should provide at least 2 office hours per week for each section for the purpose of student support, consultations and academic advice. Average office hours during the semester should be 28 hours. ▪ Instructor should use blackboard to provide all class notes the students need

E Learning Resources

<p>1. List Required Textbooks</p> <p>1. <i>Introduction to Computer and Network Security: Navigating Shades of Gray</i>, Richard R. Brooks, Chapman and Hall/CRC, Published August 19, 2013, ISBN 9781439860717.</p> <p>2. <i>Security in Computing</i>, Charles P. Pfleeger. 5th edition 2015.</p>
<p>2. List Essential References Materials (Journals, Reports, etc.)</p> <p>1. Bruce Schneier, <i>Applied Cryptography</i>, John Wiley & Sons, 1996, ISBN 0-471-11709-9</p>
<p>3. List Electronic Materials, Web Sites, Facebook, Twitter, etc</p> <p>Course website at Blackboard on http://LMS.kku.edu.sa</p>
<p>4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.</p> <p>None.</p>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
<ul style="list-style-type: none"> ▪ 1 Lecture rooms with data show
2. Technology resources (AV, data show, Smart Board, software, etc.)
Data Show for Theory Session and lab, Lab software, PCs
2. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)
All Lab software

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
Quality of Teaching evaluated will be based on:
<ul style="list-style-type: none"> ▪ The analysis of feedback/result of the surveys distributed to the students. ▪ Observation and discussion with students about the teaching strategies and assessment methods. ▪ Department Head's evaluation of the instructors' teaching performance. ▪ Any related recommendations and decisions of the department council.
3. Processes for Improvement of Teaching
The recommendations, suggestions for improvement, and taking the necessary actions will be based on the result of the surveys distributed to students as well as the evaluation of the program coordinator. Further, course instructors also are supposed to carry out their own analysis from the results of evaluation, and make judgments about what can be done better and how. The list of suggestions as an improvement process for the next semester should be used either by them or by the other teaching staff who will give the course.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)
<ul style="list-style-type: none"> ▪ Exam questions paper and answers key are approved by course coordinator. ▪ Students' final Answer sheets as well as their marks distribution are checked by the exam monitoring committee before result submission. ▪ Result is approved by the department head and the dean before being confirmed by course instructors. ▪ Finally, Department Head confirm the result in the academic system.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.
- Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Dr. Sarah Abu Ghazalah

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

456-CIS-3 Security Incident Management

Course Specifications

Institution: King Khalid University	Date: 18 th February, 2019
College/Department : College of Computer Science/Department of Information Systems	

A. Course Identification and General Information

1. Course title and code: 456-CIS-3 – Security Incident Management			
2. Credit hours: 3 (2+1)			
3. Program(s) in which the course is offered. Bachelors of Science in Information Systems Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course Dr. Sarah Abu Ghazalah			
5. Level/year at which this course is offered: Elective Course			
6. Pre-requisites for this course (if any): Network Security Course			
7. Co-requisites for this course (if any): Not Applicable			
8. Location if not on main campus: All campuses offering the Bachelors of Science in Information Systems			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
	<input type="checkbox"/>		<input type="text"/>

f. other

What percentage?

Comments:

The Blackboard LMS will be used for Assignments, Discussion Forum, quizzes, lecture notes, announcements, etc.

B Objectives

3. What is the main purpose for this course?

The aim of this course is to teach students how to deal with system security related incidents and suggest potential defenses and countermeasures against common threat. At the end of this course, student will be able to apply these incident response principles in designing systems and models for managing security incidents.

2. Briefly describe any plans for developing and improving the course that are being implemented.

By the department community as:

- The course contents will be periodically reviewed by the coordinator to include new structural materials and test methods, as and when necessary.

By the instructor:

- Provide updated Learning Material through LMS
- Real scenarios and case studies
- Lab manual

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

An Information System, connected (or not) to the Internet, is subject to attacks. Not all these attacks can be blocked by protection mechanisms such as firewalls, Antivirus etc.... This course will prepare the students to manage attacks (incidents) before and after the attack's occurrence. The first chapter provides an introduction to incident response, followed by the process followed by the incident handler. Then from Chapter 3 to 6, managing the incidents are explained.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
<p>Introduction</p> <ul style="list-style-type: none"> ▪ What is Incident Respond? ▪ Why Should You Care About Incident Response? ▪ Case Studies ▪ Concept of the Attack Lifecycle ▪ What are the Goals of Incident Response? ▪ Who is Involved in the IR Process? ▪ Pre-Incident Preparation 	2	4
<p>IR Process</p> <ul style="list-style-type: none"> ▪ Preparation 	2	4

<ul style="list-style-type: none"> ▪ Identification ▪ Containment ▪ Eradication ▪ Recovery ▪ Lesson Learned 		
Incident Detection and Characterization <ul style="list-style-type: none"> ▪ Getting the Investigation Started ▪ Discover the Scope of the Incident ▪ What Should I Do ▪ Customer Data Loss Scenario 	2	2
Data Collection <ul style="list-style-type: none"> ▪ Live Data Collection ▪ Forensic Duplication ▪ Network Evidence ▪ Enterprises Services 	3	4
Data Analysis <ul style="list-style-type: none"> ▪ Analysis Methodology ▪ Investigating Windows Systems ▪ Investigating Applications ▪ Report Writing 	3	6
Remediation <ul style="list-style-type: none"> ▪ Remediation Introduction ▪ Remediation Case Study 	3	6
Topics in Lab		
Networking Security Monitoring (nmap-Wireshark)	2	2
Data Collection <ul style="list-style-type: none"> ▪ Mandiant Redline ▪ Forensic Tool Kit 	2	4
Investigating Windows Systems <ul style="list-style-type: none"> ▪ NTFS ▪ Event Logs ▪ Schedule Tasks ▪ Registry ▪ Memory ▪ Account 	3	6
Investigating Applications: <ul style="list-style-type: none"> ▪ Where is Application Data Stored: <ul style="list-style-type: none"> ▪ Windows ▪ Web Browser ▪ Email Clients 	2	4
Malware Analysis <ul style="list-style-type: none"> ▪ Statics Analysis ▪ Dynamic Analysis 	2	4
Network Forensic <ul style="list-style-type: none"> ▪ Snort 	2	4

Data Recovery, identifying hidden data, recovering deleted files	2	4
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2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Lab/Studio	Practical	Other:	Total
Contact Hours	Planned	30		30		0	60
	Actual	30		15		0	45
Credit	Planned	2		2		0	4
	Actual	2		1		0	3

3. Additional private study/learning hours expected for students per week.	2
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy			
Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Obtain basic knowledge on dealing with system security related incidents	Lectures Group Discussion	Exams Assignment
1.2	Have a critical awareness of key security vulnerabilities that needs to be considered in incident response		
1.3	List the processes involved in incident response		
2.0	Cognitive Skills		
2.1	Explain how to apply the principles of incident response in a variety of contexts	Lectures Lab	Exams Assignment Lab Activities
2.2	Create a plan for incident response and business continuity		

2.3	Justify the deployment of security technologies in incident response operations		
2.4	Describe incident and intrusion response from a given use case.		
3.0	Interpersonal Skills & Responsibility		
3.1	Design organization's computer incident response processes	Lectures Lab	Lab Activities Lab Assignment Assignment
4.0	Communication, Information Technology, Numerical		
4.1	Analyze a given data collected from OS and/or applications to identify attacks	Lectures Group Discussion Lab	Exam Lab Assignment
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	10	10
2	Lab Activities + Assignment	Continuous	10
3	Lab Final Exam	13	10
4	First Mid- Term Theory Exam	6	10
5	Second Midterm Theory Exam	11	10
6	Final Examination	16	50

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice.

- Instructors should provide at least 2 office hours per week for each section for the purpose of student support, consultations and academic advice. Average office hours during the semester should be 28 hours.

- Instructor should use blackboard to provide all class notes the students need

E Learning Resources

1. List Required Textbooks

1. Incident Response and Computer Forensics (3rd Edition), by Jason T. Luttgens, Matthew Pepe, Kevin Mandia, McGraw-Hill Education, Published August 2014, ISBN 9780071798686.

2. List Essential References Materials (Journals, Reports, etc.)

3. Incident's Handler Handbook, SANS
<https://www.sans.org/reading-room/whitepapers/incident/incident-handlers-handbook-33901>

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc

Course website at Blackboard on <http://LMS.kku.edu.sa>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Lab Software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- 1 Lecture rooms with data show

2. Technology resources (AV, data show, Smart Board, software, etc.)

Data Show for Theory Session and lab, Lab software, PCs

4. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

All Lab software

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and

hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

Quality of Teaching evaluated will be based on:

- The analysis of feedback/result of the surveys distributed to the students.
- Observation and discussion with students about the teaching strategies and assessment methods.
- Department Head's evaluation of the instructors' teaching performance.
- Any related recommendations and decisions of the department council.

3. Processes for Improvement of Teaching

The recommendations, suggestions for improvement, and taking the necessary actions will be based on the result of the surveys distributed to students as well as the evaluation of the program coordinator. Further, course instructors also are supposed to carry out their own analysis from the results of evaluation, and make judgments about what can be done better and how. The list of suggestions as an improvement process for the next semester should be used either by them or by the other teaching staff who will give the course.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Exam questions paper and answers key are approved by course coordinator.
- Students' final Answer sheets as well as their marks distribution are checked by the exam monitoring committee before result submission.
- Result is approved by the department head and the dean before being confirmed by course instructors.
- Finally, Department Head confirm the result in the academic system.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.
- Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Dr. Sarah Abu Ghazalah

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

457-CIS-3 Introduction to Cryptography

Course Specifications

Institution: King Khalid University	Date: 20 th February, 2019
College/Department : College of Computer Science/Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 457-CIS-3 Introduction to Cryptography			
2. Credit hours: 3 (2+1)			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course Dr. Sarah Abu Ghazalah			
5. Level/year at which this course is offered: Elective course in 4 th Year			
6. Pre-requisites for this course (if any): 472--CCS-3			
7. Co-requisites for this course (if any): Not Applicable			
8. Location if not on main campus: All campuses offering the Bachelors of Science in Computer Science			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

The Blackboard LMS will be used for Assignments, Discussion Forum, quizzes, lecture notes, announcements, etc.

B Objectives

4. What is the main purpose for this course?

The strongest defense for achieving Confidentiality and Integrity is cryptography, which is the core of information security field. The aim of this course is to teach students principles and practices of cryptography.

2. Briefly describe any plans for developing and improving the course that are being implemented.

By the department community as:

- The course contents will be periodically reviewed by the coordinator to include new structural materials and test methods, as and when necessary.

By the instructor:

- Provide updated Learning Material through LMS
- Real scenarios and case studies

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course is devoted to the fields of cryptography that can be used to design and implement secure communicating systems for a variety of different needs and applications. Topics include classical ciphers, symmetric cryptosystems (DSA, AES) public key cryptosystems (RSA, Diffie-Hellman key exchange, ECC), digital signatures, User authentication and key management.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
	2	4
Classical Encryption Techniques <ul style="list-style-type: none"> ▪ Symmetric Cipher Model ▪ Substitution Techniques ▪ Transposition Techniques ▪ Steganography 	2	4
Block Cipher and Data Encryption Standard <ul style="list-style-type: none"> ▪ Traditional Block Cipher Structure ▪ The Data Encryption Standard ▪ The Strength of DES 	2	6
Advanced Encryption Standard <ul style="list-style-type: none"> ▪ AES Structure ▪ AES Transformation Function 	2	4

▪ AES Key Expansion		
Public-Key Cryptography and RSA	3	
▪ Principles of Public Key Crypto-Systems		6
▪ The RSA Algorithm		
▪ Diffie-Hellman Key Exchange		
▪ Elliptic Curve Cryptography		
Digital Signature	1	
▪ Digital Signature Principles		2
▪ RSA Digital Signature		
Key Management and Distribution	2	
▪ Symmetric Key Distribution using Symmetric Encryption		2
▪ Symmetric Key Distribution using Asymmetric Encryption		
▪ Distribution of Public Key		
▪ X.509 Certificate		
User Authentication	1	
▪ Remote User Authentication Principles		2
▪ Kerberos		
▪ Federated Identity Management		
Topics in Tutorial		
Introduction to Number Theory	2	4
Classical Stream Cipher Encryption Examples	1	2
DES Examples	2	4
AES Examples	2	4
RSA Examples	1	2
Diffie Hellman Key Exchange	2	4
RSA Digital Signature Examples	1	2
Remote User Authentication Using Symmetric Encryption	1	2
Remote User Authentication Using Asymmetric Encryption	1	2
Using Cartographic Tool for Encryption	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Lab/Studio	Practical	Other:	Total
Contact Hours	Planned	30	30			0	60
	Actual	30	15			0	45
Credit	Planned	2	2			0	4
	Actual	2	1			0	3

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy			
Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Understand Cryptography principles	Lectures Group Discussion	Exams Assignment Quiz
1.2	Describe a cryptographic method		
2.0	Cognitive Skills		
2.1	Solve a given security problem by using appropriate cryptographic methods	Lectures Tutorial	Exams Case Studies Quiz
2.2	Differentiate between symmetric and asymmetric encryption		
2.3	Show how users' credentials can be authenticated		
3.0	Interpersonal Skills & Responsibility		
3.1	Propose a secure way for sharing the secret key	Lectures Tutorial Group Work	Assignment
4.0	Communication, Information Technology, Numerical		
4.1	Propose a cryptographic algorithm for a given use case	Group Work	Group Report
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	10	10
2	Tutorial Case studies	Continuous	10
3	Quiz	5, 10	10
4	First Mid- Term Theory Exam	6	10
5	Second Midterm Theory Exam	11	10
6	Final Examination	16	50

D. Student Academic Counseling and Support

<p>1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice.</p> <ul style="list-style-type: none">▪ Instructors should provide at least 2 office hours per week for each section for the purpose of student support, consultations and academic advice. Average office hours during the semester should be 28 hours.▪ Instructor should use blackboard to provide all class notes the students need
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E Learning Resources

<p>1. List Required Textbooks</p> <p><i>Cryptography and network security: principles and practice</i> (7th edition), Stallings, William, Pearson, 2017, ISBN: 9781292158587</p>
<p>2. List Essential References Materials (Journals, Reports, etc.)</p> <p>5. Bruce Schneier, <i>Applied Cryptography</i>, John Wiley & Sons, 1996, ISBN 0-471-11709-9</p>
<p>3. List Electronic Materials, Web Sites, Facebook, Twitter, etc</p> <p>Course website at Blackboard on http://LMS.kku.edu.sa</p>
<p>4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.</p> <p>None.</p>

F. Facilities Required

<p>Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)</p>
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1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
<ul style="list-style-type: none"> ▪ 1 Lecture rooms with data show
2. Technology resources (AV, data show, Smart Board, software, etc.)
Data Show for Theory Session and Tutorial
6. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)
None

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
Quality of Teaching evaluated will be based on:
<ul style="list-style-type: none"> ▪ The analysis of feedback/result of the surveys distributed to the students. ▪ Observation and discussion with students about the teaching strategies and assessment methods. ▪ Department Head's evaluation of the instructors' teaching performance. ▪ Any related recommendations and decisions of the department council.
3. Processes for Improvement of Teaching
The recommendations, suggestions for improvement, and taking the necessary actions will be based on the result of the surveys distributed to students as well as the evaluation of the program coordinator. Further, course instructors also are supposed to carry out their own analysis from the results of evaluation, and make judgments about what can be done better and how. The list of suggestions as an improvement process for the next semester should be used either by them or by the other teaching staff who will give the course.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)
<ul style="list-style-type: none"> ▪ Exam questions paper and answers key are approved by course coordinator. ▪ Students' final Answer sheets as well as their marks distribution are checked by the exam monitoring committee before result submission. ▪ Result is approved by the department head and the dean before being confirmed by course instructors. ▪ Finally, Department Head confirm the result in the academic system.
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.
- Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Dr. Sarah Abu Ghazalah

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

474--CCS-3

Cyber Defense Technology

Course Specifications

Institution: King Khalid University	Date: 20 th February, 2019
College/Department : College of Computer Science/Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 474--CCS-3 Cyber Defense Technology			
2. Credit hours: 3 (2+1)			
3. Program(s) in which the course is offered. Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course Dr. Sarah Abu Ghazalah			
5. Level/year at which this course is offered: 1 st Semester of 4 th Year			
6. Pre-requisites for this course (if any): 472--CCS-3			
7. Co-requisites for this course (if any): Not Applicable			
8. Location if not on main campus: All campuses offering the Bachelors of Science in Computer Science			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

The Blackboard LMS will be used for Assignments, Discussion Forum, quizzes, lecture notes, announcements, etc.

B Objectives

5. What is the main purpose for this course?

The aim of this course is to teach students what defense technologies are used in different schemes as a countermeasure for cyber-attacks. At the end of this course, students should be able to define the threats that surround an asset such as cloud computing, infrastructure, computer system, and network, and list defense technologies.

2. Briefly describe any plans for developing and improving the course that are being implemented.

By the department community as:

- The course contents will be periodically reviewed by the coordinator to include new structural materials and test methods, as and when necessary.

By the instructor:

- Provide updated Learning Material through LMS
- Real scenarios and case studies
- Lab manual for the current network security technologies

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course serves as a guide to the students to the most crucial security technologies in different context, such as system, infrastructure, cloud computing, network, wireless network and access control. The course presents up-to-date attacks and teaches students the used technologies for mitigating such attacks.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Fault Tolerance and Resilience in Cloud Computing Environment <ul style="list-style-type: none"> ▪ Basic Concept of Fault Tolerance ▪ Different Level of Fault Tolerance in Cloud Computing ▪ Fault Tolerance Against Crash Failures in Cloud Computing ▪ Fault Tolerance as a Service in Cloud Computing 	2	4
Physical Security Essentials <ul style="list-style-type: none"> ▪ Physical Security Threats ▪ Physical Security Prevention and Mitigation Measures ▪ Recovery form Physical Security Breach ▪ Integration of Physical and Logical Security 	2	4
Biometrics	1	2

<ul style="list-style-type: none"> ▪ Biometric System Architecture ▪ Security Considerations 		
System Security <ul style="list-style-type: none"> ▪ Foundation of Security ▪ Countermeasure 	1	2
Infrastructure Security <ul style="list-style-type: none"> ▪ Communication security Goals ▪ Attacks and Countermeasures 	2	4
Network Security <ul style="list-style-type: none"> ▪ Remote Access Architecture ▪ AAA Server ▪ SSO Technologies ▪ Virtual Private Networks (VPNs) ▪ PKI Architecture 	3	6
WLAN Security <ul style="list-style-type: none"> ▪ Secure WLAN Architecture ▪ WLAN Security Requirements ▪ WLAN Network Security Technologies 	3	6
Access Control <ul style="list-style-type: none"> ▪ DAC, MAC and RBAC ▪ Strengthen the Infrastructure: Authentication Systems 	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Lab/Studio	Practical	Other:	Total
Contact Hours	Planned	30		30		0	60
	Actual	30		15		0	45
Credit	Planned	2		2		0	4
	Actual	2		1		0	3

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	List security technologies for a given asset	Lectures	Exams

1.2	Describe the utilization of biometric in systems	Group Discussion	Group Report
1.3	Recognize the importance of the major information systems security tools such as authentication, access control, and cryptography in the context of the overall information systems.		
1.4	Describe the actions taken in managing threats		
2.0	Cognitive Skills		
2.1	Explain how can cloud computing tolerate security failure	Lectures Lab	Exams Group Report Lab Activities
2.2	Compare Access Control Models		
2.3	Justify the deployment of security technologies in network defense		
3.0	Interpersonal Skills & Responsibility		
3.1	Show how the infrastructure can be secured using cyber defense technologies	Lectures Lab Group Work	Group Report
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate the critical countermeasure for securing systems	Lectures Group Work	Group Report
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment	10	10
2	Lab Activities + Assignment	Continuous	10
3	Lab Final Exam	13	10
4	First Mid- Term Theory Exam	6	10
5	Second Midterm Theory Exam	11	10

6	Final Examination	16	50
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D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice.

- Instructors should provide at least 2 office hours per week for each section for the purpose of student support, consultations and academic advice. Average office hours during the semester should be 28 hours.
- Instructor should use blackboard to provide all class notes the students need

E Learning Resources

1. List Required Textbooks

1 Cyber Security and IT Infrastructure Protection, John R. Vacca, Syngress; 1st edition (September 23, 2013), ISBN: 0124166814

2. List Essential References Materials (Journals, Reports, etc.)

1. Security in Computing, Charles P. Pfleeger. 5th edition 2015

2. Network Security Technologies 1st Edition, Kwok T. Fung, Auerbach Publications; 1 edition, 2004.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc

Course website at Blackboard on <http://LMS.kku.edu.sa>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Lab Software

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- 1 Lecture rooms with data show

2. Technology resources (AV, data show, Smart Board, software, etc.)

Data Show for Theory Session and lab, Lab software, PCs

7. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)
All Lab software

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

Quality of Teaching evaluated will be based on:

- The analysis of feedback/result of the surveys distributed to the students.
- Observation and discussion with students about the teaching strategies and assessment methods.
- Department Head's evaluation of the instructors' teaching performance.
- Any related recommendations and decisions of the department council.

3. Processes for Improvement of Teaching

The recommendations, suggestions for improvement, and taking the necessary actions will be based on the result of the surveys distributed to students as well as the evaluation of the program coordinator. Further, course instructors also are supposed to carry out their own analysis from the results of evaluation, and make judgments about what can be done better and how. The list of suggestions as an improvement process for the next semester should be used either by them or by the other teaching staff who will give the course.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Exam questions paper and answers key are approved by course coordinator.
- Students' final Answer sheets as well as their marks distribution are checked by the exam monitoring committee before result submission.
- Result is approved by the department head and the dean before being confirmed by course instructors.
- Finally, Department Head confirm the result in the academic system.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.

- Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Dr. Sarah Abu Ghazalah

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



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Education Evaluation Commission

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National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department : College of Computer Science / Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 462-CCS-3 Introduction to Machine Learning			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course: <u>Dr. Anand Deva Durai C</u>			
5. Level/year at which this course is offered: Level 7 - 4 th Year			
6. Pre-requisites for this course (if any): 361-CCS-3 -Artificial Intelligence			
7. Co-requisites for this course (if any):			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

Machine learning, a sub-discipline of computer science and a form of artificial intelligence (AI) that deals with the ability of the computers to learn and evolve without being programmed explicitly. It is solely focused on writing software which can learn from past experience.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

Machine Learning course introduces the fundamental concepts and algorithms that enable computational artifacts to modify and improve their performance through experience. This course covers a variety of topics, including: supervised learning such as decision trees, regression, support vector machines; unsupervised learning such as clustering, dimensionality reduction, and reinforcement learning.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction: Definition, Need, Types, Relations, Formal Model, A general Learning Model	1	2

Supervised Learning: Prediction and Classification		
Prediction Linear Predictors: Linear & Logistic Regression Stochastic Gradient Decent: GD, SGD, Variants, Learning	2	4
Classification Support Vector Machines: Hard & Soft SVM, Optimality, Duality Kernel Methods: Embedding, Kernel Trick, Implementing SVM	4	8
Multi class Ranking and complex prediction:	2	4
Unsupervised Learning: Decision Trees: Complexity, Algorithms, Random Forests Nearest Neighborhood: K – nearest Neighborhood, Analysis	2	4
Clustering	2	4
Dimensionality Reduction	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30			30		60
	Actual	30			15		45
Credit	Planned	2			2		4
	Actual	2			1		3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Recognize different ways to evaluate the power of various machine learning algorithms.	Class room Lecture Comprehensive study	Quizzes Exams
1.2	Identify the challenges for designing modern machine learning systems.	Class room Lecture Comprehensive study	Quizzes Exams
2.0	Cognitive Skills		
2.1	Solve real-world problems using ML techniques	Class room Lectures Lab Sessions Demonstrations	Exams Assignments Lab Activities
2.2	Evaluate which learning algorithms are useful for what kind of tasks.	Class room Lectures Lab Sessions Demonstrations	Lab Activities Exams
3.0	Interpersonal Skills & Responsibility		
3.1	Evaluate machine learning algorithms for tasks in various application domains	Lab Sessions	Group Projects Lab Activities

3.2			
4.0	Communication, Information Technology, Numerical		
4.1	Propose a novel research idea for solving a real time problem using the available ML algorithms.	Lab Sessions Self-Study using resources from internet.	Group Projects Presentations Lab Activities
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm Examination – I (Theory)	6	10 %
2	Midterm Examination – II (Theory)	12	10 %
3	Assignment and Quiz's – Theory	After Every chapter	10 %
4	Practical Examination	15	10 %
5	Activities - Practical	After Every chapter	10 %
6	Final Examination (Theory)	16	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
2. Office hours (10 hours/Week) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
3. Faculty has to be available in his office during the office hours for academic advice.

4. Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students
5. Refer to the faculty time table.

E Learning Resources

1. List Required Textbooks

“ Understanding Machine Learning: From Theory to Algorithms” by Shai Shalev-Shwartz & Shai Ben-David Cambridge University Press, 2014

2. List Essential References Materials (Journals, Reports, etc.)

<https://www.springer.com/computer/ai/journal/10994>

<https://www.elsevier.com/catalog/computer-science/artificial-intelligence/machine-learning>

<http://www.jmlr.org/>

<https://ijmla.net/index.php/ijmla>

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

<https://ai.google/>

<https://www.machinelearningisfun.com/>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Python, R, Octave

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms – 03

Number of seats in each class room – 50

Laboratories - 03

Accessories – Data Show Projector

2. Technology resources (AV, data show, Smart Board, software, etc.)

Computers are installed with relevant software for ready to use.

Internet connection

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Overhead projector

Computer for individual students with network connection

Internet access

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Confidential completion of standard course evaluation questionnaire.

Group discussion with small groups of students.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Student attendance is closely monitored.

Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc.

3. Processes for Improvement of Teaching

Workshops on teaching methods, review of recommended teaching strategies.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Check marking of a sample of examination papers or assignment tasks

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Revising the course in the next semester by assessing the feedback forms, completion of the course and understanding of the subject by students.

Name of Course Instructor: ____Dr Anand_____

Signature: _____ Date Specification Completed: 1-3-2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1-3-2019



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T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department : College of Computer Science / Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 463-CCS-3 Neural Network and Fuzzy Logic			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course: <u>Dr. Anand Deva Durai C</u>			
5. Level/year at which this course is offered: Level 7/ 8 – 4 th Year Elective			
6. Pre-requisites for this course (if any): 361-CCS-3 Artificial Intelligence			
7. Co-requisites for this course (if any):			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

The network is meant to emulate the human brain structure in terms of its modeling, structure, and functionality. This means artificial neural networks mimic the way the human brain processes, stores, and retrieves information—learning along the way and becoming “smarter” over time. This course aims to provide an elaborate study on such artificial neural network.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course introduces the core concepts of artificial neural network such as general NN framework, perceptron, Multilayer NN, Radial Basis Function, Self Organizing Map, Hopfield and Recurrent networks etc., It also provides the knowledge on the another learning techniques based on fuzzy logic with sample on data analysis using fuzzy logic.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction to Neural Network: Definition, Limitation, Structure, Operation, Training	1	2

Multilayer Perceptron: Function Approximation, Logistic Regression, Gradient Decent	1	2
Radial Basis Function Network: Function Approximation, Initializing & Training the parameters	2	4
Self-Organizing Map: Learning Vector Quantization, Neighborhood of the output neurons	2	4
Hopfield Networks: convergence, Associative memory, Simulated annealing	2	4
Recurrent Networks: Examples, Vectorial NN, Back Propagation	2	4
Introduction to fuzzy set and fuzzy logic: Fuzzy Sets & Logic, Operations	1	2
Fuzzy Relations and Control : Relations, Scaling, Mamdani Controllers, Logic based controllers, Control based on fuzzy relational equations	2	4
Fuzzy Data Analysis: Methods, Clustering, Analysis	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	30				60
	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Learn the basics of Artificial Neural network theory.	Class room Lecture Comprehensive study	Quizzes Exams
1.2	Understand the basic concept of fuzzy sets & logic	Class room Lecture Comprehensive study	Quizzes Exams
2.0	Cognitive Skills		
2.1	Analyze various techniques in artificial neural networks	Class room Lectures Tutorial Sessions Demonstrations	Exams Assignments Tutorial Activities
2.2	Identify the implications of fuzzy logic and train the systems accordingly	Class room Lectures Tutorial Sessions Demonstrations	Tutorial Activities Exams
3.0	Interpersonal Skills & Responsibility		
3.1	Develop and implement a basic trainable neural network (or) a fuzzy logic system for a simple application	Tutorial Sessions	Group Projects Tutorial Activities
3.2			
4.0	Communication, Information Technology, Numerical		

4.1	Demonstrate new models to improve decision making and develop critical thinking for real time problems.	Tutorial Sessions Self-Study using resources from internet.	Group Projects Presentations Tutorial Activities
4.2			
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm Examination – I (Theory)	6	15 %
2	Midterm Examination – II (Theory)	12	15 %
3	Assignment and Quiz's – Theory	After Every chapter	10 %
4	Activities - Tutorial	After Every chapter	10 %
5	Final Examination (Theory)	16	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
2. Office hours (10 hours/Week) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
3. Faculty has to be available in his office during the office hours for academic advice.
4. Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students
5. Refer to the faculty time table.

E Learning Resources

1. List Required Textbooks “ Computational Intelligence -A Methodological Introduction” by Rudolf Kruse et al, Second Edition, Springer, 2016
2. List Essential References Materials (Journals, Reports, etc.) https://www.journals.elsevier.com/neural-networks http://www.sciencepublishinggroup.com/journal/index?journalid=339
2. List Electronic Materials, Web Sites, Facebook, Twitter, etc. https://www.academia.edu/Documents/in/Fuzzy_Logic_and_Neural_Networks
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. https://ieeexplore.ieee.org/document/106218

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture rooms – 03 Number of seats in each class room – 50 Laboratories - 03 Accessories – Data Show Projector
2. Technology resources (AV, data show, Smart Board, software, etc.) Computers are installed with relevant software for ready to use. Internet connection

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Overhead projector

Computer for individual students with network connection

Internet access

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Confidential completion of standard course evaluation questionnaire.

Group discussion with small groups of students.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Student attendance is closely monitored.

Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc.

3. Processes for Improvement of Teaching

Workshops on teaching methods, review of recommended teaching strategies.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Check marking of a sample of examination papers or assignment tasks

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Revising the course in the next semester by assessing the feedback forms, completion of the course and understanding of the subject by students.

Name of Course Instructor: _____ Dr Anand _____

Signature: _____ Date Specification Completed: ____1-3-2019__

Program Coordinator: Dr Yessine

Signature: _____ Date Received: __1-3-2019__



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National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department : College of Computer Science / Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: 464-CCS-3 Knowledge Engineering And Experts System			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Sciences			
4. Name of faculty member responsible for the course: <u>Dr.Anand Deva Durai C</u>			
5. Level/year at which this course is offered: Level 7/8 -4 th Year - Elective			
6. Pre-requisites for this course (if any): 361-CCS-3 Artificial Intelligence			
7. Co-requisites for this course (if any):			
8. Location if not on main campus: All Campuses			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

One of the largest area of applications of artificial intelligence is in expert systems, or knowledge based systems as they are often known. This type of system seeks to exploit the specialized skills or information held by of a group of people on specific areas. It can be thought of as a computerized consulting service. It can also be called an information guidance system. Such systems are used for prospecting medical diagnosis or as educational aids. They are also used in engineering and manufacture in the control of robots where they inter-relate with vision systems.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course is an introduction to knowledge engineering and expert systems. This course provides a deep insight on knowledge based system from representation to acquisition. It also gives a outline to design an expert system. Students are provided with the CLIPS language which they can use to develop systems of their own. By integrating theory with a fully functional means of applying that theory to real-world situations, students will gain an appreciation for the role played by expert systems in today's world.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
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Introduction : Concepts, Characteristics, Applications, Domains, Production systems, Paradigms	1	2
Knowledge Representation: Productions, Semantic Nets, Schemata, Frames, Logic and Sets, Quantifiers, Limitations	2	4
Methods of Inference : Trees, Lattices & Graphs, Problem Spaces, Rules of Inference, Resolution, Forward and Backward Chaining, Methods of Inference, Hidden Markov Models	2	4
Uncertainty: Definition, Types of Error , Induction, Probabilities, Reasoning, uncertainty in inference chains	2	4
Knowledge Acquisition: Analysis, Stages, Levels in Analysis, Ontological Analysis, methods, Study on EMYCIN, TEIRESIAS, COMPASS, OPAL	2	4
Design of Expert System: Selecting Problem, Development Stages, Software Engineering, Life Cycle	2	4
Introduction to CLIPS Tools	2	4
Pattern Matching Application	2	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	30				60
	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Understand Data, Information, Knowledge and their various Based Systems in different domains.	Introductory lectures, and tutorial Manual	Exam Tutorial Quizzes
1.2	Compare different existence of Expert and Knowledge Base systems (KBS) and its functionalities with Conventional Approaches.	Lectures, tutorial, Tutorials, Independent Study and Assignments	Exam Tutorial Quizzes
1.3	Explain how knowledge can be acquired and represented in various techniques, also distinguish between shallow and deep knowledge in the context of ESs.	Lectures, tutorial, Tutorials, Independent Study and Assignments	Exam Tutorial Quizzes
2.0	Cognitive Skills		
2.1	Design Expert System Development Life Cycle (ESDLC) for solving complex problems to Evaluate the use of control and domain knowledge within expert systems	Lectures, tutorial, and Assignments	Exam Assignment Tutorial, Quizzes
3.0	Interpersonal Skills & Responsibility		

3.1	Apply the appropriate KBSs approach for solving social complex problems.	Lectures, tutorial, and Assignments	Exam Assignment Tutorial, Quizzes
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate the possible ways to representation of knowledge for real time applications	Assignments	Tutorial, Homework, Exercises
5.0	Psychomotor		
5.1			
5.2			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Midterm Examination – I (Theory)	6	15 %
2	Midterm Examination – II (Theory)	12	15 %
3	Assignment and Quiz's – Theory	After Every chapter	10 %
4	Activities - Tutorial	After Every chapter	10 %
5	Final Examination (Theory)	16	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
2. Office hours (10 hours/Week) of the faculty handling the course are indicated in the time-table and displayed in the notice board.
3. Faculty has to be available in his office during the office hours for academic advice.
4. Teaching assistants handling the laboratory/tutorial are required to devote 10 hours/week for helping the students

5. Refer to the faculty time table.

E Learning Resources

1. List Required Textbooks

Expert Systems: Principles and Programming, Joseph C. Giarratano & Gary D. Riley, 4th Edition, Thomson Learning Inc., 2004,

2. List Essential References Materials (Journals, Reports, etc.)

- **Introduction to Expert Systems, Peter Jackson, Addison Wesley Longman, 1999**

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

<https://sourceforge.net/projects/clipsrules/>

<http://www.clipsrules.net/>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

<http://fumblog.um.ac.ir/gallery/668/big-2.pdf>

<https://www.cs.odu.edu/~mukka/cs480f09/Lecturenotes/Expertsystems/clips/tutorial/tutorial1.pdf>

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture rooms – 03

Number of seats in each class room – 50

Laboratories - 03

Accessories – Data Show Projector

2. Technology resources (AV, data show, Smart Board, software, etc.)

Computers are installed with relevant software for ready to use.

Internet connection

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Overhead projector

Computer for individual students with network connection

Internet access

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Confidential completion of standard course evaluation questionnaire.

Group discussion with small groups of students.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Student attendance is closely monitored.

Observations and assistance from colleagues, independent assessment of standards achieved by students, independent advice on assignment tasks, etc.

3. Processes for Improvement of Teaching

Organize workshops on effective teaching methods to enable instructors to improve their teaching skills.

Teaching method will focus on students' learning and on course learning outcomes.

Regular Seminars were arranged in the college of computer science in which each faculty member has to participate.

Training of faculty members on different software /hardware is facilitated.

Blackboard E-Learning system was introduced two years back the faculty was properly trained

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The samples of student work in this course are appended to course files to check on the standard of grades and achievements.
 - College Council and Knowledge Area Group Heads will evaluate the course material and the students' work to compare the standard of grades and achievements with those at his university.
 - Student exam question papers are verified by course coordinator, knowledge Area Group Head and HOD.
 - Answer sheets are checked by the faculty members who are teaching the course.
- Group checking technique is followed to have a uniform standard of checking the students' answer scripts

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The feedback received from assessments will be used to plan for further improvement in the course syllabus, teaching method, Practical and delivery of course materials.
- The course coordinators will be entrusted with the primary duty of administering every two-year a self-assessment of the program, and to evaluate the findings of this evaluation, the surveys of the employers, alumni, faculty, and the input of the exit interviews with the graduating students.
- The course material and learning outcomes are periodically reviewed and the changes to be taken should be approved in the department level.
- The head of department and the corresponding faculty take the responsibility of implementing the proposed changes.

Name of Course Instructor: ___Dr Samirah_____

Signature: _____ Date Specification Completed: ___1-3-2019___

Program Coordinator: Dr Yessine

Signature: _____ Date Received: ___1-3-2019___



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

COURSE SPECIFICATIONS

(CS)

Distributed Systems and Parallel Processing (482--CCS-3)

Course Specifications

Institution: King Khalid University, Abha	Date: 18/02/2019
College/Department: College of Computer Science, Department of Computer Science	

A. Course Identification and General Information

1. Course title and code: Parallel and Distributed Computing (482--CCS-3)			
2. Credit hours: 3			
3. Program(s) in which the course is offered. Computer Science (If general elective available in many programs indicate this rather than list programs) BSCS (Bachelor of Science in Computer Sciences)			
4. Name of faculty member responsible for the course:			
5. Level/year at which this course is offered: Level 8			
6. Pre-requisites for this course (if any): 381--CCS-3			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus:NA			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>

Comments:

B Objectives

1. What is the main purpose for this course?

The objective of this course is to introduce students to the fundamentals and techniques of distributed and parallel computing and provide them with the basic skills of how to write distributed and parallel programs.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

4. Activating the use of Internet for further reading, and finding new directions in the field.
5. Periodical reviewing of a course with the Committee on Academic Accreditation in the department.
6. Updating the course contents regularly based on recent developments in the field.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course gives the students an introduction to distributed and parallel processing: Parallel and distributed architectures, models of distributed and parallel machines, distributed and parallel programming paradigms and models, performance analysis of parallel systems..

Students are expected to develop distributed applications using latest technologies.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours

<p>Chapter 1: Introduction to Distributed Systems : Transparency in a distributed system, scalability problems, scaling techniques, pitfalls when developing distributed systems, cluster computing systems, grid computing systems, transaction processing systems, Enterprise Application Integration, distributed pervasive systems.</p>	2	4
<p>Chapter 2: Architectures: Architectural styles, centralized architectures, application layering, multitiered architectures, structured peer-to-peer architectures, unstructured peer-to-peer architectures, topology management of overlay networks, edge-server systems, collaborative distributed systems, interceptors, general approaches to adaptive software and the feedback control model.</p>	2	4
<p>Chapter 3: Processes : Thread usage in non-distributed systems, thread implementation, multithreaded servers, the role of virtualization in distributed systems, architectures of virtual machines, networked user interfaces, client-side software for distribution transparency, general design issues, server clusters, distributed servers, managing server clusters, reasons for migrating code, models for code migration, migration and local resources and migration in heterogeneous systems.</p>	2	4
<p>Chapter 4: Communication: Layer protocols, middleware protocols, types of communication, conventional procedure call, client and server stubs, remote procedure calls (RPC), passing value parameters, parameter specification and stub generation, asynchronous RPC, writing and binding a client and a server, berkeley sockets, the message-passing interface message brokers, IBM's WebSphere message-queuing system, channels message transfer, data stream and streams and quality of service (QoS).</p>	3	6

Chapter 5: Naming: Names, identifiers, and addresses, forwarding pointers, home-based approaches, distributed hash tables and hierarchical approaches	1	2
Chapter 6: Introduction to Parallel Computing: What is parallel computing, parallel computers, why use parallel computing future of parallel computing, who is using parallel computing.	2	4
Chapter 7: Parallel Computing: Concepts and Terminologies: Parallel computing architectures and parallel computing memory architectures.	2	4
Chapter 8: Network Topologies in Parallel Computing: Network topologies, networking in parallel computing and types of networks.	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	30	0	0	60
	Actual	30	0	15	0	0	45
Credit	Planned	2	0	2	0	0	4
	Actual	2	0	1	0	0	3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Demonstrate the ability to understand and solves issues related to distributed systems and parallel processing.	<ul style="list-style-type: none"> ● Lectures ● Group discussions ● Case studies ● Brainstorming 	<ul style="list-style-type: none"> ● Homework ● Quizzes ● Exams
2.0	Cognitive Skills		
2.2	Construct simple distributed and parallel processing systems.	<ul style="list-style-type: none"> ● Lectures ● Tutorial ● Group discussions 	<ul style="list-style-type: none"> ● Homework ● Quizzes ● Exams
2.4	Analyze and identify user needs and take them ,into account in the selection, creation evaluation and administration of parallel processing and distributed systems.		
3.0	Interpersonal Skills & Responsibility		
3.2	Demonstrate the ability to work in a team engaged in the design, development, and performance analysis of parallel and distributed applications.	<ul style="list-style-type: none"> ● Lectures ● Tutorial ● Group discussions 	<ul style="list-style-type: none"> ● Presentation ● Report
4.0	Communication, Information Technology, Numerical		
4.1	Operate simple distributed systems as well as simple parallel processing systems.	<ul style="list-style-type: none"> ● Lectures ● Tutorial ● Group discussions 	<ul style="list-style-type: none"> ● Homework, ● Quizzes ● Exams ● Presentation
5.0	Psychomotor		
5.1	N/A		

5. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz1	3	2
2	Assignment 1	4	3
3	First Mid- Term Exam	5	10
4	Quiz2	7	2
5	Assignment 2	8	3
6	Second Mid- Term Exam	9	10
7	Final Practical Exam (Marks distribution for various assessment is done the Practical Instructor)	15	20
8	Final Examination	16	50
9	Total Marks	-	100

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Office hours as per schedule of teacher Time-Table are specified to the students and students are encouraged to consult the teacher in case of any problem related to the lectures/ assignment/ homework/ exercises/ practical.

E. Learning Resources

1. List Required Textbooks

Distributed Systems (3rd Edition) by Andrew S. Tanenbaum, Maarten Van Steen, 2017.

Parallel Computing: Theory and Practice 2nd Edition, by Quinn, Mc Graw Hill India; 2nd edition (July 1, 2017).

Parallel Programming: Techniques and Applications Using Networked Workstations and Parallel Computers by Barry Wilkinson, Michael Allen (2nd Edition) ISBN-10: 0131405632. 2004.
2. List Essential References Materials (Journals, Reports, etc.) NIL
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. Blackboard
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Websites on the internet that are relevant to the topics of the course

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) <ul style="list-style-type: none"> ✓ Lecture rooms are equipped with whiteboard. ✓ Lecture rooms provide enough space for the students. ✓ Laboratories are well equipped and everything is provided to the students.
2. Technology resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none"> ✓ An easy accessible computer lab. ✓ Updated version of subject syllabus is uploaded for student reference. ✓ Computers are installed with the facility of LAN/WAN. ✓ Relevant software' for use of students.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Everything is already provided according to the course requirement.

G. Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- ✓ Distribution of feedback forms at the end of semester to the students.
- ✓ Head of the department review overall course deficiencies based on the students' evaluation, faculty input, course file, and program assessment.
- ✓ Student course evaluation at the conclusion of the course.
- ✓ General knowledge questions regarding information security are asked from the students.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- ✓ Faculty assessment of the course and effectiveness of the teaching delivery.
- ✓ Periodic self-assessment of the program.
- ✓ Student attendance is closely monitored.
- ✓ Student feedback is considered for teaching evaluation.
- ✓ Mid Term Exam/Practical/Assignments/Homework determines the standard of teaching and become a milestone for teaching evaluation.

3. Processes for Improvement of Teaching

- ✓ Organize workshops on effective teaching methods to enable instructors to improve their teaching skills.
- ✓ Teaching method will focus on students' learning and on course learning outcomes.
- ✓ Regular seminars were arranged in the college of computer and information sciences in which each faculty member has to participate.
- ✓ Training of faculty members on different software/hardware is facilitated.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- ✓ The samples of student work in the course are appended to course files to check on the standard of grades and achievements
- ✓ Student exam question papers are verified by course coordinator and HOD.
- ✓ Answer sheets are checked by the faculty members who are teaching the course.
- ✓ Group checking technique is followed to have a uniform standard of checking the students' answer scripts.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- ✓ The feedback received from assessments will be used to plane for further improvement in the course syllabus, teaching method, and delivery of course materials.
- ✓ The course coordinators will be entrusted with the primary duty of administering every two-year a self-assessment of the program, and to evaluate the findings of this evaluation,

the surveys of the employers, and the input of the exit interviews with the graduating students.

- ✓ Update text books.
- ✓ Consulting other top universities course specifications and contents.

Name of Course Instructor: Dr Talal

Signature: _____ Date Specification Completed: ___1-3-2019__

Program Coordinator: Dr Yessine

Signature: _____ Date Received: ___1-3-2019_____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS

(CS)

Subject Code: 492--CCS-3

Subject Name: Project I

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 19/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Project I: 492--CCS-3
2. Credit hours: 3
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Sciences
4. Name of faculty member responsible for the course
5. Level/year at which this course is offered: Level 7
6. Pre-requisites for this course (if any): Principles of software engineering 241--CCS-3
7. Co-requisites for this course (if any):
8. Location if not on main campus:

9. Mode of Instruction (mark all that apply):

- | | | | |
|-------------------------------------|-------------------------------------|------------------|----------------------------------|
| a. traditional classroom | <input type="checkbox"/> | What percentage? | <input type="checkbox"/> |
| b. blended (traditional and online) | <input type="checkbox"/> | What percentage? | <input type="checkbox"/> |
| c. e-learning | <input type="checkbox"/> | What percentage? | <input type="checkbox"/> |
| d. correspondence | <input type="checkbox"/> | What percentage? | <input type="checkbox"/> |
| f. other | <input checked="" type="checkbox"/> | What percentage? | <input type="text" value="100"/> |

Comments:

**Continuous monitoring of the project specification preparation process by the supervisor.
The supervisor can decide the mode of instruction according to the need of the project students.**

B Objectives

1. What is the main purpose for this course?

- This course gives the opportunity for the students to bring out their innovative ideas as projects by implementing those ideas using the knowledge gained throughout the program.
- This course enables the students to develop their inter personal skills such as teamwork and leadership qualities etc.,
- This course also improves students' written and oral communication skills by making them performing presentations and documentations.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- To bring in students' innovative ideas as project proposals.
- To insist the students in implementing a prototype of the system by the end of project 1.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

Project phase I is the course in which students proposes project ideas and it will be scrutinized and approved by the concerned committee to proceed. In this course students do the requirement analysis and design the patterns needed for their proposed project. By the end of this course students would prepare a detailed specification with necessary architectural design of the software system that would be developed in project phase II. This course will also enable the students to improve their interpersonal skills and presentation skills.

1. Topics to be Covered

Tutorial	No. of Weeks	Contact hours
Exploring a problem domain	2	4
Research Methodology	2	4

Literature Study	2	4
Team Building	1	2
Software Management	1	2
Effective Communication	2	4
Effective Presentation	1	2
Technical Report Writing	1	2
Citation and referencing skills, dealing with plagiarism	1	2
Writing a research paper	2	4
Project Development	No. of Weeks	Contact hours
Determining the project: Project abstract submitted to Project Committee by Supervisor. Students form group and select supervisor and topic.	1	2
Background study and literature review: Preparing background of the study, Problem statement, research scope conduct in-depth studies on selected topics. Review the published resource on the selected topic	2	4
Planning and requirements: Defining the functional, operational, technical and transitional requirement.	3	6
Presentation I	1	2
Analysis and Design: Comprehensive analysis, Detailed requirements and alternative solution, Use Case Diagram, Activity Diagram, Class Diagram, Sequence Diagram, Collaboration Diagram, State Diagram. (wherever applicable)	3	6
Development of Prototype/ Working Model/User Interface	3	6
Project report submitted to Project Committee in hard-copy and softcopy form (CD containing the complete document and programs/source code/applications etc.)	1	2
Presentation II	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other: Supervision	Total
Contact	Planed	30	30				60

Hours	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

10

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define any problem and describe the objectives of the problem/project.	Lectures, seminars, discussion , surveys	Survey reports
1.2	Recall Software engineering concepts for the development of the proposed software design.	Lectures, case studies	Design reports
2.0	Cognitive Skills		
2.1	Plan and design the implementation requirements of the project by analyzing any real world problem.	Group discussions, Case studies	Design reports
2.2	Design solutions to the planned project using the knowledge that has been acquired during the program.	Group discussions, Case studies	Reports.
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate the professional and ethical values by cooperating as a team member of	Group Discussions	Presentations

	the project and exhibit their leadership qualities.		
4.0	Communication, Information Technology, Numerical		
4.1	Students will be able to demonstrate their proficiency by written reports and oral presentation.	Oral Presentations	Projects reports and Presentations
5.0	Psychomotor		
5.1			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Internal Assessment-1 (Evaluated by supervisor before Presentation-1)	5	25%
2	Presentation-1 (Evaluated by Examiners from Project Committee)	7	25%
3	Internal Assessment-2 (Evaluated by supervisor before Presentation-2)	12	25%
4	Presentation-2 (Evaluated by Examiners from Project Committee)	14	25%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

Tutorial sessions need to be arranged in lecture halls with smart class room facility.

There are dedicated two hours per week by the teacher/supervisor for the project students. Apart from that students can meet the teacher any time during the office hours of the teacher. A teacher has an average of 10 office hours per week.

E Learning Resources

1. List Required Textbooks

Projects in Computing and Information Systems: A Student's Guide, Christian W. Dawson, 2015.
2. List Essential References Materials (Journals, Reports, etc.) Software Engineering (9th Edition) Ian Sommerville (Author), 792 pages, Addison-Wesley; March 13, 2010, Project Management Institute, A Guide to the Project Management Body of Knowledge (5th Edition), 2013. Additional books that depends upon the project
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. Depends upon the project
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Depends upon the project

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) General Lab/ Project Lab ; Depends on the individual projects
2. Technology resources (AV, data show, Smart Board, software, etc.) Depend on the individual projects, computational facilities will vary.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Depend on the individual projects, computational facilities will vary.

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

Students' feedback can be obtained through questionnaire directly by the Head of the department / project coordinator.

Students are also enabled to evaluate the learning experience during the course at the end of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

3. Processes for Improvement of Teaching

By screening the topics and objectives of projects and suggesting modifications if any by a panel of senior faculty and experts during the project presentation.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

The project work is evaluated by at least two examiners from the Project Committee based on the project report (documentation) and the presentation. The defense of the project will include a presentation and demonstration. (The average of the marks awarded by the two examiners will be taken as the result of presentation). The project examiners must be satisfied on the progress of the project work such as project objectives have been met , the outcome has justified the time spent on the project etc.,

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Presentation I during the 7th week of the project and Presentation II during the 14th week of the project.

Name of Course Coordinator: Dr Ghada

Signature: _____ Date Specification Completed: ___1-3-2019___

Program Coordinator: Dr Yessine

Signature: _____ Date Received: ___1-3-2019___



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS (CS)

Course Specifications

Institution: KING KHALID UNIVERSITY , Abha	Date: 24/02/2019
College/Department : COLLEGE OF COMPUTER SCIENCE / DEPARTMENT OF COMPUTER SCIENCE	

A. Course Identification and General Information

1. Course title and code: Project 2: 493--CCS-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor of Computer Science			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 8/ Fourth Year			
6. Pre-requisites for this course (if any): Project I: 492--CCS-3			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Male campus, female campus, CS program branches			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
f. other	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>

Comments:

Continuous monitoring of the project Implementation by the supervisor.

The supervisor can decide the mode of instruction according to the need of the project students.

B Objectives

1. What is the main purpose for this course?

- This course gives the opportunity for the students to bring out their Programming skills by implementing the project ideas (project 1).
- This course enables the students to develop their inter personal skills such as teamwork and leadership qualities etc.,
- Encourage teamwork. Improve students' communication skills through the
- production of a professional report, a professional poster and to give two presentations on their work

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

28. Project Supervisors regularly reviews the project development (3 hours/ week).
29. Mid Project presentation exams are conducted to improve the Project Development
30. The Project evaluation committee follows the project guidelines to enhance the content and quality of the Project modules to improve the motivation and involvement of students

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

An advanced course that emphasizes on real time software development, which involves the use of latest software's and tools to develop to implement a real time project.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Revise the analysis phase	1	3
Code generation for various modules and algorithms	5	15
Testing of modules and refinements / Starting of experimental analysis.	2	6
Validation / consolidation of algorithms results	2	6
Integrating the modules / formulation of research / Experimental findings	2	6
Testing the software as one unit	1	3
Writing professional Project report	2	6

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	30				60
	Actual	30	15				45
Credit	Planned	2	2				4
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.	10
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Identify the required procedures to implement the project.	Review coding, Presentation, Testing, Group discussions, Case studies	Presentation, Reports, Posters
1.2	Recognize the use latest software's and tools in the implementation process.	Review coding, Presentation, Testing, Group	Presentations, Reports, Posters

		discussions, Case studies	
2.0	Cognitive Skills		
2.1	Analysis, Design and develop the project based on its requirements.	Review coding, Presentation, Testing, Group discussions, Case studies	Presentations, Reports, Posters
2.2	Applying project Objectives that contribute to the society, in implementing the Project	Review coding, Presentation, Testing.	Presentations, Reports, Posters
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate the professional and ethical values by cooperating as a team member of the project and exhibit their leadership qualities.	Group Discussions	Presentations
3.2	Illustrate the ability to solve problems as a group and to manage time, resources and task	Review coding, Presentation, Testing.	Presentations, Reports, Posters
4.0	Communication, Information Technology, Numerical		
4.1	Students will be able to demonstrate their proficiency by written reports and oral presentation.	seminars, discussions	Projects reports and Presentations
5.0	Psychomotor		
5.1			

5. Schedule of Assessment Tasks for Students During the Semester

Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
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1	Internal Assessment-1 (Evaluated by supervisor before Presentation-1)	5	25%
2	Presentation-1 (Evaluated by Examiners from Project Committee)	7	25%
3	Internal Assessment-2 (Evaluated by supervisor before Presentation-2)	12	25%
4	Presentation-2 (Evaluated by Examiners from Project Committee)	14	25%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

There are dedicated two hours per week by the teacher/supervisor for the project students. Apart from that students can meet the teacher any time during the office hours of the teacher. A teacher has an average of 10 office hours per week.

E Learning Resources

1. List Required Textbooks

Depends upon the project and Supervisor

2. List Essential References Materials (Journals, Reports, etc.)

Depends upon the project and Supervisor

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

Depends upon the project and Supervisor

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Depends upon the project and Supervisor

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F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) General Lab/ Project Lab ; Depends on the individual projects
2. Technology resources (AV, data show, Smart Board, software, etc.) Depend on the individual projects, computational facilities will vary.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Depend on the individual projects, computational facilities will vary.

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching Students' feedback can be obtained through questionnaire directly by the Head of the department / project coordinator. Students are also enabled to evaluate the learning experience during the course at the end of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department The meeting will be organized by the Coordinator to discuss the student's feedback and take corrective measures. Student feedback is considered for Project Guidance evaluation process of Guide's. Project Presentation of Mid Term, Final Project Presentations are used to determine the standard of Project Guidance evaluation.

3. Processes for Improvement of Teaching

Project Supervisor holds regular meetings with their group to discuss and give suggestions to solve many problems during implementation phase.

College committee will review Project Guidance evaluation feedback of Guide's and need based quality improvement programs will be conducted for Project Guide's to improve the efficiency of their Project Development Guidance.

Workshops and seminars on effective Project Development methods should be conducted to enable Project Guide's to improve their Project Development skills.

Training of Project Guide's on different latest software's / hardware is facilitated.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Student's working Project execution is checked by the Head of Computer Dept. and Project Evaluation committee.

The originality of the Student Project and the unique techniques used by the students in their project are reviewed Project Evaluation committee.

Educational Evaluation committee will evaluate the Project Guidelines and the standards are followed by all students' projects and the students' project work is also compared with other university student projects.

Continuous meeting between the supervisor and project group that lead to screen each module, in midterm presentation, the Project Evaluation committee help to modify, correct the implementations issues in the project.

In final presentation the Project Evaluation committee will test each and every module.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.

Students' results, grading criteria, specification, and reports should be revised and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Coordinator: Dr Ghada

Signature: _____ Date Specification Completed: 24/02/2019

Program Coordinator: ___Dr Yessine _____

Signature: _____ Date Received: __1/3/2019____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T6. COURSE SPECIFICATIONS

(CS)

231-CIS-3 – Introduction to Databases

Course Specifications

Institution: King Khalid University	Date: 9 th February, 2019
College/Department : College of Computer Science/Department of Information Systems	

A. Course Identification and General Information

1. Course title and code: 231-CIS-3 – Introduction to Databases
2. Credit hours: 3 (2 + 1)
3. Program(s) in which the course is offered. Bachelor in Information Systems
4. Name of faculty member responsible for the course Dr. Usman Ahmed
5. Level/year at which this course is offered: 4 (year 2, semester 2)
6. Pre-requisites for this course (if any): None
7. Co-requisites for this course (if any): None
8. Location if not on main campus: All campuses offering the Bachelor in Information Systems Program
9. Mode of Instruction (mark all that apply): a. traditional classroom <input type="checkbox"/> Yes <input checked="" type="checkbox"/> What percentage? <input type="text" value="100"/> <input type="checkbox"/> <input type="checkbox"/>

b. blended (traditional and online)		What percentage?	
c. e-learning	<input type="text"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="text"/>	What percentage?	<input type="text"/>
f. other	<input type="text"/>	What percentage?	<input type="text"/>

Comments:

The Blackboard LMS will be used for quizzes, lecture notes, announcements, etc.

B Objectives

1. What is the main purpose for this course?

The main purpose of this course is to introduce databases systems concepts to students. This course provides introductory level theoretical as well as practical knowledge of databases to students. The students are expected to acquire database modeling, designing, and implementation skills upon successful completion of this course.

2. Briefly describe any plans for developing and improving the course that are being implemented.

The course is under continuous improvement based on the outcomes of students/instructors' feedback.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course introduces basic database concepts to students and then provide details on relation database model, SQL, database designing (conceptual, logical and physical schema), relational algebra, and database application development. The practical part includes the implementation of concepts learned in theory and their practice.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Course Overview and Introduction to database systems	1	2
Introduction to relational model and relational algebra	2	4
Introductory SQL: Create, Retrieve, Update, Delete	2	4
Intermediate SQL: Joins, Views and Integrity Constraints	1.5	3

Advanced SQL: Functions, Procedures and Triggers	1.5	3
Database design using E-R model	2	4
Relational database design	2	4
Application development	2	4
Complex data types (semi structured, textual, spatial, etc.)	1	2
Lab Topics		
Introduction to Oracle Environment and its installation	1	2
Exploring database tables and manual retrieval of data	1	2
Practice exercise on relational algebra	1	2
SQL: Querying databases (SELECT, WHERE, LIKE, IN, AND/OR/NOT, ORDER BY)	1	2
SQL: Querying Database (Aggregation, Group By, Having)	1	2
SQL: Querying Database (Joins, Views)	2	4
SQL: Functions, Stored Procedures, Triggers	2	4
SQL: Creating, Updating and Deleting Schema and Records (CREATE, INSERT, UPDATE, ALTER, DELTE, DROP), Integrity Constraints	2	4
Developing ER diagram using MS Visio	1	2
Application development using Oracle Form Developer	3	6

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Lab/Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	0	30	0	60
	Actual	30	0	0	30	0	60
Credit	Planned	2	0	0	1	0	3
	Actual	2	0	0	1	0	3

3. Additional private study/learning hours expected for students per week.

3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy			
Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the terminology, features, classifications, and characteristics embodied in database systems.	Lectures	Quizzes, Exams
1.2	List major DBMS components and their functions	Lectures	Quizzes, Exams
2.0	Cognitive Skills		
2.1	Demonstrate an understanding of the relational data model.	Lectures, Lab Exercises	Exams, Assignments
2.2	Model an ERD and relational database schema based on user requirement		Exams, Assignments
2.3	Transform an information model into a relational database schema and implement the schema using a DBMS.		Exams, Assignments
2.4	Formulate, using relational algebra and SQL, solutions to a broad range of query problems.		Lab Exam
2.5	Use a desktop database package to create, populate, maintain, and query a database.		Mini-project
3.0	Interpersonal Skills & Responsibility		
3.1	Work in team to produce a database application	Mini-project supervision	Mini-Project
4.0	Communication, Information Technology, Numerical		
4.1	Not Applicable		

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment 1	3	2
2	Quiz 1	4	2
3	Mid 1 Exam (Theory)	6	10
4	Quiz 2	8	3
5	Assignment 2	12	3
6	Mid 2 Exam (Theory)	12	10
7	Lab Continuous Evaluation	1 - 12	5
8	Lab Mini-project	13	5
9	Lab Final Exam	15/16	10
8	Final Exam (Theory)	After 15	50

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice.

- Instructors should provide at least 2 office hours per week for each section for the purpose of student support, consultations and academic advice. Average office hours during the semester should be 28 hours.
- Instructor should use blackboard to provide all class notes the students need

E Learning Resources

1. List Required Textbooks

1. Database System Concepts, Seventh Edition, Avi Silberschatz, Henry F. Korth, S. Sudarshan, McGraw-Hill, ISBN 9780078022159 (February, 2019)

2. List Essential References Materials (Journals, Reports, etc.)

1. Modern Database Management (12th edition), Jeffrey A. Hoffer, Ramesh Venkataraman Heikki Topi, 2016

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc

<https://lms.kku.edu.sa>

<https://www.w3schools.com/sql/>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

None

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- 1 Lecture rooms with data show and smart board (possible internet facility)
- 1 Computer Lab

2. Technology resources (AV, data show, Smart Board, software, etc.)

Data show, Oracle 13c with SQL Developer and Forms Developer

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

Computers with internet connectivity

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

Teaching is also evaluated based on:

- The analysis of feedback/result of the surveys distributed to the students.
- Observation and discussion with students about the teaching strategies and assessment methods.

Department Head's evaluation of the instructors' teaching performance.

3. Processes for Improvement of Teaching

The recommendations, suggestions for improvement, and taking the necessary actions will be based on the result of the surveys distributed to students as well as the evaluation of the program coordinator. Further, course instructors also are supposed to carry out their own analysis from the results of evaluation, and make judgments about what can be done better and how. The list of suggestions as an improvement process for the next semester should be used either by them or by the other teaching staff who will give the course.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Exam questions paper and answers key are approved by course coordinator..
- Students' final Answer sheets as well as their marks distribution are checked by the exam committee before result submission.
- Result is approved by the department head and the dean before being confirmed by course instructors.
- Finally, Department Head confirm the result in the academic system.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.

- Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Dr Sarah

Signature: _____ Date Specification Completed: _1/3/2019_

Program Coordinator: _____

Signature: _____ Dr Yessine _____ Date Received: 1/3/2019

T6. COURSE SPECIFICATIONS (CS)

373-CIS-3 – Data Mining

COURSE SPECIFICATIONS

Institution: King Khalid University	Date: 11/02/2019
College/Department : College of Computer Science, Department of Information Systems	

A. Course Identification and General Information

1. Course title and code: 373-CIS-3 – Data Mining
2. Credit hours: 3 (2+1)
3. Program(s) in which the course is offered. Bachelor in Information Systems
4. Name of faculty member responsible for the course Dr. Ayman Qahmash
5. Level/year at which this course is offered: 6 (year 3, semester 2)
6. Pre-requisites for this course (if any): 271-CIS-4 – Statistics and Data Analysis
7. Co-requisites for this course (if any): None
8. Location if not on main campus: All campuses offering Bachelor in Information Systems Program
9. Mode of Instruction (mark all that apply): a. traditional classroom <input checked="" type="checkbox"/> What percentage? <input type="text" value="100"/> b. blended (traditional and online) <input type="checkbox"/> What percentage? <input type="text"/>

c. e-learning

What percentage?

d. correspondence

What percentage?

f. other

What percentage?

Comments:

B Objectives

1. What is the main purpose for this course?

This course provides the principles and main concepts of data mining in the field of computing and data analysis. It enables the students to know the way of how to apply data mining principles to the large complex data and also to enable them to learn different methods of discovering knowledge behind data using data mining techniques.

2. Briefly describe any plans for developing and improving the course that are being implemented.

Because that data mining play important roles in the modern business and large enterprises, then the materials provided in the course should be up to date and cope with the development in new technologies used to assist in analysis and decision making processes.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course is an introductory course on data mining. It introduces the basic concepts, principles, methods, implementation techniques, and applications of data mining, with a focus on data mining functions: description, association, classification, clustering, and web mining. The topics covers the data types, pre-processing techniques, association rule mining, clustering, classification and web mining along with data mining trends to determine patterns and optimization process. It provides the pathway to use software tools to mine in large data set.

1. Topics to be Covered

List of Topics (Theory)	No. of Weeks	Contact hours
-------------------------	--------------	---------------

Introduction. What is Data Mining? Why Data Mining Now? The Data Mining Process—Software Development Approach, The Data Mining Process—The CRISP-DM Approach, Data Mining Applications, Data Mining Techniques, Practical Examples of Data Mining. (Ch1)	1	1
Data understanding and data preparation, Data Collection and Pre-processing, Outliers, Mining Outliers, Missing Data, Types of Data, Computing Distance, Data Summarising Using Basic Statistical Measurements, Displaying Data Graphically. (Ch2)	2	4
Association rules mining: , The Task and a Naïve Algorithm, Apriori, FP growth	2	2
Linear regression, intuition and math behind linear regression, ordinary least squares technique, model requirement, multilabel linear regression, (Ch 7&9 from the second textbook)	2	6
Classification: Basic Concepts, Decision Tree Induction, logistic linear regression, Naïve Bayes Method. (Ch3)	3	6
Cluster Analysis: Basic Concepts and Methods, Cluster Analysis, Partitioning Methods	2	4
Data warehouse: basic concepts, DW modelling, design and implementation. (Ch8)	2	4
Online Analytical Processing (OLAP), Characteristics of OLAP Systems, Motivations for Using OLAP, Multidimensional View and Data Cube, Data Cube Implementations	1	2
Lab Topics		
R overview and installing R Studio, R foundational notation (Chapter 1 from the second textbook)	1	2
Banking account case study, accruing and preparing the data, summarizing the data with pivot-like tables, visualization with ggplot2. (Chapter 2 from the second textbook)	2	4
The data mining process CRISP-DM methodology, data collection, description, exploration and correlations. (Chapter 3 from the second textbook)	2	4
Data cleaning and validation. Analysing the structure of the data, tidying, validating, merging data. (Chapter 5 from the second textbook)	2	3

Applying linear, multiple regression. (Chapter 7 from the second textbook)	2	4
Classification, logistic regression, Decision Trees, random forest (Chapter 10 & 11 from the second textbook)	3	6
Clustering: K-Means Clustering	2	4
Text data mining, sentimental analysis (Chapter 12 from the second textbook)	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	0	30	0	60
	Actual	30	0	0	15	0	45
Credit	Planned	2	0	0	2	0	4
	Actual	2	0	0	1	0	3

3. Additional private study/learning hours expected for students per week.

3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define knowledge discovery and data mining concepts, tasks, and applications	Lectures	Exams, Quizzes
1.2	Describe raw input data and process it to provide suitable input for a range of data mining techniques.	Lectures	Exams, Quizzes
1.3	Describe data mining techniques for discovering and measuring interesting patterns of the given data sets.	Lectures	Exams, Quizzes
2.0	Cognitive Skills		

2.1	Explain the roles that data mining plays in various fields and manipulate different data mining techniques.	Lectures	Exams, HW Assignment
2.2	Apply different methods of data pre-processing and perform different data mining tasks on dataset to discover hidden knowledge and interesting pattern	Lectures, Lab lectures	Exams, HW Assignment Practical Exam, Exercise
3.0	Interpersonal Skills & Responsibility		
3.1	Evaluate and implement data mining techniques to facilitate knowledge discovery in given datasets.	LAB Lectures	LAB Exams & Exercise
3.2	Use data mining tool to practice different data mining tasks on given datasets.	Lectures	Exams, HW Assignment
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate the specific applications of data mining based on the analysis to conceptualize a data mining solution to a practical problem.	Group discussion	Group Report
5.0	Psychomotor		
5.1			

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quiz#1	5	2
2	Midterm Exam#1	7-8	10
3	Quiz #2	10	2
4	Group work/Discussion	12	3
5	Midterm Exam#2	13-14	10
6	Homework Assignment#1	14	3
7	LAB Practical Exercises	2-14	10

8	LAB Exam	15	10
9	Final Theory Exam	After 15	50

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice.

- Instructors should provide at least 2 office hours per week for each section for the purpose of student support, consultations and academic advice. Average office hours during the semester should be 28 hours.
- Instructor should use blackboard to provide all class notes the students need.

E Learning Resources

1. List Required Textbooks

- Introduction to Data Mining with Case Studies by G. K. Gupta, third edition, 2014. Publisher: PHI Learning. ISBN: 978-8120350021
- R Data Mining by Andrea Cirillo, 2017. ISBN: 978-1787124462. Publisher: Packt Publishing

2. List Essential References Materials (Journals, Reports, etc.)

- Introduction to Data Mining, 2nd Edition (2018), Pang-Ning Tan, Michael Steinbach, Vipin Kumar: ISBN-13: 978-0321321367. Publisher: Pearson Education
- Data Mining: Concepts and Techniques, 3rd ed./ Jiawei Han, Micheline Kamber and Jian Pei, The Morgan Kaufmann Series in Data Management Systems, Morgan Kaufmann Publishers, July 2011 or later. ISBN 978- 0123814791.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

- <https://www.statmethods.net/r-tutorial/index.html>
- <http://www.rdatamining.com>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- RStudio

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

<ul style="list-style-type: none">• Lecture room with at least 25 seats• Computer LAB equipped with 25 PCs.
2. Technology resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none">• Data Show/Projector• RStudio
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) <ul style="list-style-type: none">• Internet connection

G Course Evaluation and Improvement Processes

<h3>1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching</h3> <p>A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.</p>
<h3>2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department</h3> <p>Teaching is also evaluated based on:</p> <ul style="list-style-type: none">✓ The analysis of feedback/result of the surveys distributed to the students.✓ Observation and discussion with students about the teaching strategies and assessment methods.✓ Department Head's evaluation of the instructors' teaching performance.✓ Any related recommendations and decisions of the department council.
<h3>3. Processes for Improvement of Teaching</h3> <p>The recommendations, suggestions for improvement, and taking the necessary actions will be based on the result of the surveys distributed to students as well as the evaluation of the program coordinator. Further, course instructors also are supposed to carry out their own analysis from the results of evaluation, and make judgments about what can be done better and how. The list of suggestions as an improvement process for the next semester should be used either by them or by the other teaching staff who will give the course.</p>

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- ✓ Exam questions paper and answers key are approved by course coordinator.
- ✓ Students' final Answer sheets as well as their marks distribution are checked by the exam committee before result submission.
- ✓ Result is approved by the department head and the dean before being confirmed by course instructors.
- ✓ Finally, Department Head confirm the result in the academic system

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- ✓ Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.
- ✓ Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Dr. Ayman Qahmash

Signature: _____

Date Specification Completed: 20th February,

2019

Program Coordinator: Dr. Ayman Qahmash

Signature: _____

Date Received: _____

T6. COURSE SPECIFICATIONS (CS)

444-CIS-3 - Human Computer Interaction

COURSE SPECIFICATIONS

Institution: King Khalid University	Date: 14-02-2019
College/Department : College of Computer Science/Department of Information Systems	

A. Course Identification and General Information

1. Course title and code: 444-CIS-3 - Human Computer Interaction
2. Credit hours: 3 (3+0)
3. Program(s) in which the course is offered. Bachelor in Information Systems
4. Name of faculty member responsible for the course: Salem Alamri, Raja Abdul Sattar
5. Level/year at which this course is offered: 8 (year 4, semester 2)
6. Pre-requisites for this course (if any): None
7. Co-requisites for this course (if any): None
8. Location if not on main campus: All campuses offering Bachelor in Information Systems Program
9. Mode of Instruction (mark all that apply): a. traditional classroom <input checked="" type="checkbox"/> What percentage? <input type="checkbox"/> 100 <input type="checkbox"/> <input type="checkbox"/>

b. blended (traditional and online)		What percentage?	
c. e-learning	<input type="text"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="text"/>	What percentage?	<input type="text"/>
f. other	<input type="text"/>	What percentage?	<input type="text"/>

Comments:

Blackboard LMS will be used to provide course related support and resources.

B Objectives

1. What is the main purpose for this course?

The objective of this course is to give an introduction to the key areas, approaches and Developments in the field. The main objective is to get student to think constructively and analytically about how to design and evaluate interactive technologies. Basically, the course will introduce them to key areas, theoretical frameworks, approaches and major developments in HCI.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

Course is designed to be introduced in updated Bachelors of Information Systems Degree Plan. Further reviews will be made after launching the course as per the university and college defined policies.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

Human-computer interaction is an interdisciplinary field that integrates theories and methodologies from computer science, cognitive psychology, design, and many other areas. The course is intended to introduce the student to the basic concepts of human-computer interaction. It will cover the basic theory and methods that exist in the field. Case studies are used throughout the readings to exemplify the methods presented and to lend a context to the issues discussed. The students will gain principles and skills for designing and evaluating interactive systems. Among the topics studied are the design and evaluation of effective user interaction designs, including principles and guidelines for designing interactive systems. User interaction development activities include requirements and task analysis, usability specifications, design, prototyping, and evaluation.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Course overview and Introduction to HCI	1	3
Usability of Interactive Systems Introduction; Usability Goals and Measures; Usability Motivation; Goals for our profession		
HCI: Guidelines, Principle and Theories Introduction; Guidelines; Principles and Theories	2	6
Design Introduction; Organizational support for design; The design process; Design Frameworks; Design Method; Design tools, practices and patterns; social impact analysis; Legal issues	2	6
Evaluation and the User Experience Introduction; Expert review and heuristics; Usability testing and laboratories; survey instruments; acceptance tests; Evaluation during active use and beyond; Controlled psychology oriented experiments	2	6
Design Case Studies Iterative Design Evaluation of ATM; Design Consistency at Apple Computer; Data driven design at Volvo; General Observation and Summary	1	3
Direct Manipulation and Immersive Environments Introduction; What is direct manipulation and examples; 2D and 3D Interfaces; Teleoperation and Presence; Augmented and Virtual Augmented Reality	2	6
Fluid Navigation Introduction; Navigation by selection; Small displays; Content organization; Audio menus; Form fill-in and dialog boxes	2	6
Advancing the User Experience Introduction; Display design; View management; Animation; Web page design; Color; No anthropomorphic design; Error messages	2	6

The Timely User Experience Introduction; Models of system response time impacts; expectation and attitudes; User productivity and variability in SRT; Frustrating experiences	1	3
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2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45	0	0	0	0	45
	Actual	45	0	0	0	0	45
Credit	Planned	3	0	0	0	0	3
	Actual	3	0	0	0	0	3

3. Additional private study/learning hours expected for students per week.

3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Explain why it is important to design interactive products that are usable and key terms used in interaction design	Lectures/Brainstorming	Exams
1.2	Explain key theories used in the design of interactive products	Lectures, Brainstorming	Exams
1.3	Explain the importance of iteration, evaluation and prototyping in interaction design	Lectures, Brainstorming	Exams
2.0	Cognitive Skills		

2.1	Gather data in the context of developing a simple interactive product using suitable techniques	Lectures/Case Studies	Exams, Assignments
2.2	Produce a low-fidelity prototype for an interactive product based upon a simple list of interaction design principles	Lectures, Brainstorming	Exams
3.0	Interpersonal Skills & Responsibility		
3.1	Evaluate an interactive product using suitable techniques	Lectures, Case Studies	Exams, Assignments
4.0	Communication, Information Technology, Numerical		
4.1	Justify user interface evaluation and evaluation methods	Lectures/Case Studies	Presentation

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Quizzes	3	5
2	Assignments	5	5
3	Midterm 1 Exam	7,12	15
4	Midterm 2 Exam	6-13	15
5	Presentations, poster, discussion forum	4-14	10
6	Final Exam	16	50

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Instructors should provide at least two office hours per week for each section for the student support, consultations and academic advice. Average office hours during the semester would be four hours.
- Faculty concerned is advised to use blackboard to provide essential references.

E Learning Resources

<p>1. List Required Textbooks Designing the User Interface: Strategies for Effective Human-Computer. B. Shneiderman, C. Plaisant, M. Cohen, S. Jacobs , N. Elmqvist, N. Diakopoulos, 6th Ed.; Pearson; 2016. ISBN-13: 978-0134380384</p>
<p>2. List Essential References Materials (Journals, Reports, etc.)</p> <ol style="list-style-type: none"> 1. Interaction Design: Beyond Human-Computer Interaction 4th Edition; Yvonne Rogers, Helen Sharp , Jenny Preece; Wiley; 4 edition (May 26, 2015); ISBN-10: 1119020751; ISBN-13: 978-1119020752 2. Human-Computer Interaction (3rd Edition); Alan Dix, Janet E. Finlay, Gregory D. Abowd. Russell Beale; Pearson; 2003; ISBN-10: 9780130461094; ISBN-13: 978-0130461094
<p>3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.</p> <p>http://www.id-book.com/resources_index.php</p>
<p>4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.</p> <p>None</p>

F. Facilities Required

<p>Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)</p>
<p>1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)</p> <p>1 Lecture room with data show and smart board (internet facility, if possible)</p>
<p>2. Technology resources (AV, data show, Smart Board, software, etc.)</p> <p>Data show, Computer</p>
<p>3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)</p> <p>Computers with internet connectivity</p>

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

Instructor's discussion with students to get their opinion about the strength and weakness

3. Processes for Improvement of Teaching

The students answer qualitatively few questions in the feedback form, survey provided by the quality unit, where they can suggest learning problems and can give suggestions. Further, instructor also will carry out his own analysis from the results of evaluation, and will make judgments about what can be done better and how.

3. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Exam questions paper and answers key are approved by course coordinator.
- Students' final Answer sheets as well as their marks distribution are checked by the exam committee before result submission.
- Result is approved by the department head and the dean before being confirmed by course instructors.
- Finally, Department Head confirm the result in the academic system.

4. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.

- Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Salem Alamri, Raja Abdul Sattar

Signature: _____ Date Specification Completed: 14-02-2019

Program Coordinator: Dr. Ayman Qahmash

Signature: _____ Date Received: _____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

483-CIS-2 – Computing Ethics

Course Specifications

Institution: King Khalid University	Date: 7th February, 2019
College/Department : College of Computer Science/Department of Information Systems	

A. Course Identification and General Information

1. Course title and code: 483-CIS-2 – Computing Ethics
2. Credit hours: 2 (2+0)
3. Program(s) in which the course is offered. Bachelor in Information Systems
4. Name of faculty member responsible for the course Dr. Arshi Naim
5. Level/year at which this course is offered: 8 (year 4, semester 2)
6. Pre-requisites for this course (if any): None
7. Co-requisites for this course (if any): None
8. Location if not on main campus: All campuses offering the Bachelor in Information Systems Program
9. Mode of Instruction (mark all that apply): a. traditional classroom <input type="checkbox"/> Yes <input type="checkbox"/> What percentage? <input type="text" value="100"/> <input type="checkbox"/> <input type="checkbox"/>

b. blended (traditional and online)

What percentage?

c. e-learning

What percentage?

d. correspondence

What percentage?

f. other

What percentage?

Comments:

This course has been developed to be a full e-learning course. The course materials including all lectures are available in the e-learning system (Blackboard). Hence, the course can be delivered as traditional, blended, or full e-learning mode.

B Objectives

1. What is the main purpose for this course?

The course of Computer and Information Ethics aims to educate students before graduation about the work environment and the ethics of which some professions, such as those who work in computing and IT fields, should have. Also students will be introduced to social and ethical issues relating to computer science and information technology. This course will cover various topics such as Intellectual Property, the Information Privacy, Network and computer security. Students should have a working knowledge of personal computing. This extends to cover the importance of the existence of professional code of ethics in the IS and IT work environment.

2. Briefly describe any plans for developing and improving the course that are being implemented.

It is very important to link what students learn among the course to the reality of their society by discussing related issues such as systems, rules and regulations, laws, and values within the society. This will create a piece of interest for students to study the course and motivates them to compare and contrast their society to what they learn.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

Computers and high-speed communication networks are transforming our world. These technologies have brought us many benefits, but they have also raised many social and ethical concerns. A thoughtful response to information technology requires a basic understanding of its history, an awareness of current information-technology related issues, and a familiarity with ethics. This course offers extensive and topical coverage of the legal, ethical, and societal implications of computer science and Information Technology. Students will learn legal and ethical issues of infringement of intellectual property, security risks, Internet crime, identity theft, etc. Students will gain an absolute foundation in ethical decision making for current and future business managers and computer professionals.

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
History of Internet Introduction to Ethics <ul style="list-style-type: none"> ▪ Overview to Ethical Theories ▪ Social Contract Theories 	1	2
Networking <ul style="list-style-type: none"> ▪ Email and Spam ▪ Social /Technical Solutions ▪ World Wide Web (www): attributes and how we use (wiki, blogs, social networking, online game) ▪ Freedom of Expressions ▪ Censorship and Web Filters ▪ Ethical Evaluation of Internet Addiction 	2	4
Intellectual Property <ul style="list-style-type: none"> ▪ Intellectual Property Right ▪ Protecting Intellectual Property ▪ Fair Use and new restrictions on use ▪ Peer to Peer Network ▪ Open Source Software ▪ Legitimacy of Intellectual Property Protection for Software 	2	4
Information Privacy <ul style="list-style-type: none"> ▪ Perspective of Privacy ▪ Information Disclosure ▪ Data Mining 	1	2
Privacy and the Government <ul style="list-style-type: none"> ▪ Introduction ▪ National Identification Card ▪ Information Dissemination 	2	4
Computer and Network Security <ul style="list-style-type: none"> ▪ Hacking ▪ Malware ▪ Cyber Crime and Cyber Attack ▪ Online Voting 	2	4
Computer Reliability <ul style="list-style-type: none"> ▪ Data-Entry or Data-Retrieval Errors ▪ Software and Billing Errors ▪ Notable Software System Failures ▪ Computer Simulations ▪ Software Engineering ▪ Software Warranty 	2	4
Professional Ethics <ul style="list-style-type: none"> ▪ Are Computer Experts Professionals ▪ Software Engineering Code of Ethics ▪ Analysis of the Code 	1.5	3

<ul style="list-style-type: none"> ▪ Case Studies 		
Work and Wealth <ul style="list-style-type: none"> ▪ Automation and Unemployment ▪ Work Place Change ▪ Globalization ▪ Digital Divide ▪ Case Studies 	1.5	3

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Lab/Studio	Practical	Other:	Total
Contact Hours	Planned	30	0	0	0	0	30
	Actual	30	0	0	0	0	30
Credit	Planned	2	0	0	0	0	2
	Actual	2	0	0	0	0	2

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Describe the meaning of Ethics and the different Ethical Views.	Lectures Group Discussion	Exams Quiz Discussion
1.2	Define different ethical terms: privacy, Freedom of Speech, and Intellectual Property.		
2.0	Cognitive Skills		
2.1	Distinguish between different kinds of ethical and legal violations in different cases such as in copyrights law, patents, Intellectual Property rights, issues for software developers.	Lectures Group Work Case Studies	Exams Quiz Assignment
2.2	Analyze the issues aggravated by Networking; explain methods to enhance Computer Security and Computer Reliability and Explain different types of crimes in field of computing.	Lectures Group Work Case Studies	Exams Quiz Case Studies Discussion
3.0	Interpersonal Skills & Responsibility		

3.1	Analyze an ethical scenario on Professional Ethics, automation and unemployment and digital divide and demonstrate Ethical Guidelines for Computer Professionals Scenarios.	Lectures Group Discussion	Exams Presentation
4.0	Communication, Information Technology, Numerical		
4.1	Present and illustrate given topics to Classmate.	Lectures Group Work	Exams Presentation

5. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments as Case Studies	5,12	10
2	Quizzes	6,11	5
3	Discussion	3,4	5
4	Presentation	9	10
5	First Mid- Term Theory Exam	8	10
6	Second Midterm Theory Exam	12	10
7	Final Examination	15	50

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice.

- Instructor should provide at least 10 office hours per week for students support, consultations and academic advice.
- Instructor should inform students about alternative ways they can contact him such as email, blackboard, phone, etc.

E Learning Resources

1. List Required Textbooks

Ethics for the Information Age, Michael J. Quinn (2016), ISBN-13: 9780134296548 Published 02/11/2016, 7th Edition, Pearson

2. List Essential References Materials (Journals, Reports, etc.)

The Handbook Of Information And Computer Ethics, Kenneth Einar Himma and Herman T. Tavani ISBN 978-0-471-79959-7, Wiley

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc

Course website at Blackboard on <http://LMS.kku.edu.sa>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

- SAUDI ANTI-CYBER CRIME LAW
- SAUDI ELECTRONIC TRANSACTIONS LAW
- COMMUNICATION AND INFORMATION TECHNOLOGY COMMISSION SAUDI ARABIA

[HTTP://WWW.CITC.GOV.SA/ENGLISH/RULESANDSYSTEMS/CITCSYS/PAGES/ELECTRONICTRANSACTIONS.LAW.ASPX](http://WWW.CITC.GOV.SA/ENGLISH/RULESANDSYSTEMS/CITCSYS/PAGES/ELECTRONICTRANSACTIONS.LAW.ASPX)

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- 1 Lecture rooms with data show and smart board (possible internet facility)

2. Technology resources (AV, data show, Smart Board, software, etc.)

Data Show for Theory Session

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

None

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

A survey, provided by quality unit, is used to get students' feedback on instructor's approach of teaching, course's pros and cons, and their suggestions. Moreover, instructor is expected to discuss with students and hear from them about their feedback regarding the course weaknesses, strengths, syllabus, teaching method, and suggestions for improvements.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

Instructor is expected to open the way for students discussion to get their feedback and suggestions about the shortage and strength of the course, syllabus, teaching method, etc.

3. Processes for Improvement of Teaching

The recommendations, suggestions for improvement, and taking the necessary actions will be based on the result of the surveys distributed to students as well as the evaluation of the program coordinator. Further, course instructors also are supposed to carry out their own analysis from the results of evaluation, and make judgments about what can be done better and how.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Exam questions paper and answers key are approved by course coordinator.
- Students' final Answer sheets as well as their marks distribution are checked by the exam committee before result submission.
- Result is approved by the department head and the dean before being confirmed by course instructors.
- Finally, Department Head confirm the result in the academic system.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- Based upon the results of evaluation planned, a course report should be prepared. It should summarize the extent to which the course objectives have been achieved. In addition, it should state the course related shortage, what areas need improvement, and the suggested ways to overcome each problem. Moreover, proposed changes should be determined in the report and whether the previously suggested changes had improved or still existed.
- Students' results, course syllabus, course specification, course reports, and exam questions should be revised by the course coordinator, and then submitted to the department quality committee in order to assure that all quality predetermined standards have been applied.

Name of Course Instructor: Dr Uthman

Signature: _____ Date Specification Completed: 1/3/2019

Program Coordinator: Dr Yessine

Signature: _____ Date Received: 1/3/2019

Courses from other Colleges



هيئة تقويم التعليم
Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

ATTACHMENT 5

T6. COURSE SPECIFICATIONS (CS)

Course Code: **133-CCE-3**
Course Name: **Discrete Structures**

Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department : College of Computer Science/Department of Computer Engineering	

A. Course Identification and General Information

1. Course title and code: Discrete Structures 133-CCE-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. . Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course Theory: Dr.Ahmed Said Badawy			
5. Level/year at which this course is offered: Level 4 / Second Year			
6. Pre-requisites for this course (if any): 113-MATH-3 Linear Algebra			
7. Co-requisites for this course (if any): NA			
8. Location if not on main campus: Main Campus (Grager)			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

This course introduces students to:

- Basic concepts of discreet structures.
- Applications of Boolean algebra, Graphs and Trees.
- Logical deductions
- Fundamental of Proof techniques and first order logic.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- Continuous improvement of course contents to incorporate latest development in the area of the subject.
- Using the course report to enhance the subject outcomes.
- Train students to solve and implement different discrete structures problems.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course introduces History and overview of Discrete Structures, Familiarize with standards, and/or engineering constraints. Provide the concepts of Functions, relations, and sets, Boolean algebra principles, First-order logic, Proof techniques, Basics of counting, Graphs and trees, Iteration and recursion.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
History and overview	1	2
Relevant tools, standards, and/or engineering constraints	1	2
Sets: Sets and their representation, Venn diagrams, operation on sets, relations, type of functions.	3	6
Boolean algebra: Boolean algebra principal, the concept of SOP, POS, K-map and its applications.	2	4
First-order logic.	1	2
Proof techniques: introduction to proofs, methods of proving theorems.	1	2
Counting: Basic principle of counting, Importance of counting, inclusion – exclusion principles, pigeonhole principle.	2	4
Graphs and trees: introduction of graph and trees, types of graphs, representation of graphs, graph traversal, types of trees and its applications, tree traversal algorithms.	2	4
Iteration and recursion: principle of recursion, Iteration vs. recursion	2	4

Tutorial List with Schedule

Topics	No. of Weeks	Contact hours
Introduction to discrete structures	2	4
Sets, Relations and Functions	3	6
Boolean algebra principles	2	4
First-order logic	1	2

Proof techniques	2	4
Basics of counting	1	2
Graphs and trees	2	4
Iteration and recursion	1	2
Final exam	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30	30	-	-	-	60
	Actual	30	30				60
Credit	Planned	2	1				3
	Actual	2	1				3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the concepts of Sets, relations, functions, Boolean algebra, Iteration and recursion, mathematical logic and Tautology	Lecture and tutorials	Exam
2.0	Cognitive Skills		
2.1	Calculate the permutations and combinations	Tutorials	Exam
	Compare the various propositions and proof techniques	Group Discussion	Lab Report
2.2	State the concepts of discrete structures, standards, tools and constraints	Lecture	Exam
2.3	Analyze the various traversing methods of graphs and binary tree in a group work	Lecture	Exam
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate an ability to work in team	Lecture and tutorials	Lab Report
4.0	Communication, Information Technology, Numerical		
4.1	Illustrated the Tautology, contradictions and its implications in written form	Tutorials	Lab Report
5.0	Psychomotor		
	NA		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)											
	a1	a2	b1	b2	b3	b4	b5	c1	c2	c3	d1	d2
1.1	✓											
2.1			✓									
2.2			✓									
2.3				✓				✓				
3.1								✓				
4.1											✓	

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments, quizzes –Theory *(minimum two) * Choose best one from two Quizzes and Assignments	Throughout the semester	5%
2	Midterm-1	Week 7-8	10%
3	Midterm-2	Week 12-13	10%
4	Tutorial report	Throughout the semester	5%
5	Class work– Tutorial	Throughout the semester	5%
6	Home work– Tutorial	Throughout the semester	5%
7	Final Tutorial Exam	Week 14-15	10%
8	Final Exam –Theory	Week 16-17	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
10 office hours by theory & lab faculty in a weekly schedule.

E Learning Resources

- List Required Textbooks
 - Kenneth H. Rosen, *Discrete Mathematics and its applications*, McGraw Hill, 7ed, 2012
- List Essential References Materials (Journals, Reports, etc.)
 - Edgar G. Goodaire & Michael M. Parmenter, *Discrete Mathematical Structure with Graph Theory*, Pearson Prentice Hall, New Jersey, 2005, ISBN-0-13-167995-3
 - Trembley, J.P & Manohar; “Discrete Mathematical Structure with Application Computer Science”, McGraw Hill, 1988
 - C. L. Liu, “Elements of Discrete Mathematics”, Tata McGraw-Hill.

- | |
|---|
| 3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. |
| 4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. <ul style="list-style-type: none"> • www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc. • www.ieee.org • www.acm.org to search latest research in relevant field. |

F. Facilities Required

- | |
|---|
| Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.) |
| 1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
One lecture rooms with 40 seats and lab room with 20 students |
| 2. Technology resources (AV, data show, Smart Board, software, etc.)
Data Show (Projectors) in lecture room and lab |
| 3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) None |

G Course Evaluation and Improvement Processes

- | |
|--|
| 1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none"> • At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course. |
| 2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department <ul style="list-style-type: none"> • Departmental evaluation from students about teacher • Course evaluation report from the course coordinator after the exam |
| 3. Processes for Improvement of Teaching <ul style="list-style-type: none"> • Observations made from the course evaluation report by the course coordinator • Head of department observations, suggestions, instructions etc. |
| 4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"> • The course coordinator verify the standards of the student achievements |
| 5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. <ul style="list-style-type: none"> • The subjects are reviewed periodically by the Subject committee and the head of the department for improvement. Subject committee comprising of all theory and lab tutors of the course. Need to conduct at least one meeting per semester to review the progress and effectiveness of the course. |

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



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ATTACHMENT 5

T6. COURSE SPECIFICATIONS (CS)

Course code: **444-CCE-3**
Course Name: **Internet of Things**

Course Specifications

Institution: **King Khalid University**

Date: **21/02/2019**

College/Department : **College of Computer Science/ Department of Computer Engineering**

A. Course Identification and General Information

1. Course title and code: **Internet of Things 444-CCE-3**

2. Credit hours: **3**

3. Program(s) in which the course is offered.
Bachelor in Computer Engineering

4. Name of faculty member responsible for the course: **Dr. Paul Rodrigues**

5. Level/year at which this course is offered: **Nil**

6. Pre-requisites for this course (if any): **Nil**

7. Co-requisites for this course (if any): **Nil**

8. Location if not on main campus: **NA**

9. Mode of Instruction (mark all that apply):

a. traditional classroom

What percentage?

b. blended (traditional and online)

What percentage?

c. e-learning

What percentage?

d. correspondence

What percentage?

f. other

What percentage?

Comments:

B Objectives

1. What is the main purpose for this course?

This course introduce students to:

- Fundamentals of IOT and Opportunities.
- State of the Art – IOT Architecture
- Real World IOT Design Constraints, Industrial Automation and Commercial Automation in IOT

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

C. Course Description (Note: General description in the form used in Bulletin or handbook)

The Internet of Things (IoT) is expanding at a rapid rate, and it is becoming increasingly important for professionals to understand what it is, how it works, and how to harness its power to improve business. This course includes introduction to machine-to-machine (M2M) and IoT, M2M to IoT-A Market Perspective, M2M to IoT-An Architectural Overview, IoT Technology Fundamentals, IoT Architecture-State of the Art, Real-World Design Constraints, and Industrial automation using IoT. This course deals with the concept of IoT with market trends and future directions. At the end of the course student should demonstrate with Mini Project.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
M2M to IoT: The Vision-Introduction, From M2M to IoT, M2M towards IoT-the global context, A use case example, Differing Characteristics.	2	4
M2M to IoT-A Market Perspective: Introduction, Some Definitions, M2M Value Chains, IoT Value Chains, An emerging industrial structure for IoT, The international driven global value chain and global information monopolies. IOT local and global trends. IOT application area.	2	4
M2M to IoT-An Architectural Overview: Building architecture, Main design principles and needed capabilities, An IoT architecture outline, standards considerations. Constraints involved IOT architecture.	2	4
IoT Technology Fundamentals: Devices and gateways, networking in IoT, and protocols, Data management, Business processes in IoT, Everything as a Service (XaaS), M2M and IoT Analytics, Knowledge Management.	2	4

IoT Architecture-State of the Art: Introduction, State of the art, Architecture Reference Model- Introduction, Reference Model and architecture, IoT reference Model. Introduction, Functional View, Information View, Deployment and Operational View, Other Relevant architectural views.	3	6
Real-World Design Constraints: Introduction, Technical Design constraints-hardware is popular again, Data representation and visualization, Interaction and remote control.	3	6
Industrial Automation: Introduction to industrial automation, Realizing the enterprise integrated Web of Things, from the Web of Things to the Cloud of Things. Case Study.	1	2
Lab Topics		
Arduino board programming	2	4
Interfacing Arduino with device peripherals (GPIO , ADC , servos)	1	2
Interfacing Arduino with sensors (Reading Data from Sensors)	1	2
Controlling remotely devices using WIFI	1	2
Reading remotely sensors using WIFI	1	2
Connecting Arduino to the Internet (Design and implementation of IoT Gateway)	1	2
Cloud data logging	1	2
Cloud data monitoring	1	2
Interfacing with Web services	2	4
Controlling a Door Lock from a cloud	1	2
Fire alarm sensor using IoT	1	2
Internet-Connected Smart Water Meter	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30			30		60
	Actual	30			30		60
Credit	Planned	2			1		3
	Actual	2			1		3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the fundamental principles and applications of of IOT.	Lectures	Exams (quiz, mid, final) Long and short essay
2.0	Cognitive Skills		
2.1	Analyse IOT opportunities and future directions	Lectures	Exams (quiz, mid, final) Long and short essay
2.2	Design IOT applications with relevant standards and constraints		
2.3	Apply interfacing techniques for hardware & Sensors connectivity		
3.0	Interpersonal Skills & Responsibility		
3.1	Function effectively on a team when using Devices, Gateways and Data Management in IoT.	Group projects	Group discussion, case study, group report
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate professional skills, critical discussion, structuring of information, oral and written presentation.	Discussions Demonstrations	Presentations Group report
5.0	Psychomotor		
5.1	NA		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
2.1			✓								
2.2				✓							
2.3				✓							
3.1							✓				
4.1										✓	✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments, Quizzes Theory	Throughout the semester	5%
2	Mid Exam1	Week 7	10%
3	Mid Exam2	Week 12	10%
4	Lab Home-work	Throughout the semester	5%
5	Lab Activity	To be maintained every week	10%
6	Lab Exam	Week 13-14	10%
7	Final Exam – Theory	Week 16-17	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

10 office hours by the faculty in a weekly schedule

E Learning Resources

1. List Required Textbooks

- Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stamatis Karnouskos, David Boyle, “Internet of Things: Technologies and Applications for a New Age of Intelligence”, 2nd Edition, December 14, 2018. ISBN-13: 978-0128144350
- Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stamatis Karnouskos, David Boyle, “From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence”, 1st Edition, Elsevier, 2014. ISBN-13: 978-0124076846

2. List Essential References Materials (Journals, Reports, etc.)

- Dirk Slama, Frank Puhlmann, Jim Morrish, Rishi M Bhatnagar, “Enterprise IoT: Strategies and Best Practices for Connected Products and Services”, 2nd Edition, 2016. ISBN-13: 978-1491924839
- Olivier Hersent, David Boswarthick, Omar Elloumi, “The Internet of Things: Key Applications and Protocols” 2nd Edition, Wiley, 2012. ISBN-13: 978-1119994350

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

- www.lms.kku.edu.sa
- www.ieee.org

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- One lecture rooms with 40 seats

2. Technology resources (AV, data show, Smart Board, software, etc.)

- Data Show (Projectors) in lecture room and lab

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Departmental evaluation from students about teacher
- Course evaluation report from the course coordinator after the exam

3. Processes for Improvement of Teaching

- Follow departmental instructions to improve teaching.
- Observations made from the course evaluation report by the course coordinator
- Head of department observations, suggestions, instructions etc.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- Knowledge area chairman is the independent member of teaching staff for verifying the standards of the student achievements

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The department has established core areas in the department each under a knowledge area chairman. The subjects are reviewed periodically by the Knowledge area chairman and the head of the department for review and improvement. Subject committee comprising of all theory and lab staff of the course, conduct meetings (at least 3 meetings per semester) to review the progress of the course.

Name of Course Instructor:

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



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ATTACHMENT 5

T6. COURSE SPECIFICATIONS (CS)

Course Code: **443-CCE-3**
Course Name: **Real Time Systems**

Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department: College of Computer Science / Computer Engineering	

A. Course Identification and General Information

1. Course title and code: Real Time Systems 443-CCE-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered: Bachelor in Computer Engineering			
4. Name of faculty member responsible for the course: Dr. Mehrez Marzougui			
5. Level/year at which this course is offered: Level 9 or 10/year 5 (Elective course)			
6. Pre-requisites for this course (if any): Nil			
7. Co-requisites for this course (if any): Nil			
8. Location if not on main campus: NA			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="90"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="10"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?

1. Analyze Real-time scheduling and schedulability.
2. Specify and verify timing constraints and properties of different Real-Time systems.
3. Teach Programming of Real-time environments
4. Develop students ability to design real-time systems methods
5. Develop students ability to design and implement real-time systems

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

This course is being regularly revised and developed by conducting meetings with the Head of the Department, Course Coordinator and course teachers.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course introduces real time system by providing details of the important topics in the field. The course includes real-time concepts and applications, introduction to Real-time operating systems and resource management, task assignment and scheduling, Specification and design methods for real-time systems, Resource management in real-time systems, System performance analysis and optimization techniques, Real-time communication, Case studies of real-time operating systems.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction: Overview of real-time concepts and applications with emphasis on the distinguishing characteristics of real-time systems and the constraints that they must satisfy.	2	4
Real-time scheduling and schedulability analysis: Preemptive scheduling, Non preemptive scheduling, parallelizable task scheduling, priority driven preemptive scheduling approach, scheduling independent periodic tasks.	3	6
Scheduling Real-Time Tasks: Task scheduling types, Types of Schedulers, clock driven, table-driven, Cyclic, EDF, RMA	2	4
Specification and design methods for real-time systems: verification using timed automata and timed petri nets, model checking, real-time temporal logic specifications.	3	6
Resource reclaiming in multiprocessor real time systems: Scheduler model, Dynamic scheduling model, resource reclaiming algorithms, properties of resource reclaiming algorithms.	2	4
Resource management in real-time systems: potential problems and their resolution as well as practical issues in building real-time systems.	2	4
Study of Practical Systems: Networked control systems, cyber-physical system, controller area network.	1	2
PRACTICAL		
Introduction to the Lab.	1	2

Introduction of LAB VIEW Programming	1	2
Building a VI	1	2
Temperature log VI	1	2
Determine warnings VI	1	2
Array VI	1	2
Sbrio: FPGA application	2	4
Cluster data & generate global	1	2
Comparison of numbers	1	2
State Machine	1	2
Vision machine: snap & save to image file	1	2
Formula node VI	1	2
Home work	1	2
Final Exam	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		30			60
Credit	Planned	2		1			3
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the fundamental principles of Real time systems.	Lectures	Exams (quiz, mid, final) Long and short essay
2.0	Cognitive Skills		
2.1	Formulate and analyze problems in computing and solve them using acquired knowledge in real time system.	Lab demonstrations Lectures	Exams (mid, final) Lab exam, Home work

2.2	Design a real-time system or process to meet desired needs within realistic constraints.	Lab demonstrations Lectures	<i>Exams (mid, final)</i> Lab exam, Home work
2.3	Conduct experiments related to real-time systems and analyze and interpret the obtained data.	Lab demonstrations	<i>Lab exam,</i>
2.4	Use modern techniques, skills and tools necessary for Real-Time systems practice.	Lab demonstrations Lectures	<i>Exams (mid, final)</i> Lab exam, Home work
3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate to work independently and within team.	Small group work	Lab report, Home work
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate oral communication effectively through the presentation of mini-project on Real-time systems.	Small group work	Group report
5.0	Psychomotor		
5.1	NA		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
2.1			✓								
2.2				✓							
2.3					✓						
2.4						✓					
3.1							✓				
4.1											✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments	3	2%
2	Quizzes	5	3%
3	MidTerm Exam 1	7	10%
4	MidTerm Exam 2	11	10%
5	Lab activities and exams	13-14	25%
6	Final Exam	15-16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- 10 office hours by theory & lab faculty in a weekly schedule

E Learning Resources

1. List Required Textbooks
1. Sanjoy Baruah, Marko Bertogna, Giorgio Buttazzo, “Multiprocessor Scheduling for Real-Time Systems”, 1 st edition, Springer International Publishing Switzerland, 2015, ISBN 978-3-319-08695-8.
2. Hermann Kopetz, “Real-Time Systems Design Principles for Distributed Embedded Applications”, 2 nd edition, Springer, 2011, ISBN 978-1-4419-8236-0.
2. List Essential References Materials (Journals, Reports, etc.)
1. H. Kopetz, “Real-Time Systems: Design Principles for Distributed Embedded Applications”, Kluwer Academic Publishers, 1997.
2. Q. Li with C. Yao, “Real-Time Concepts for Embedded Systems”, CMP Books, 2003.
3. B.P. Douglass, “Real-Time Design Patterns: Robust Scalable Architecture for Real-Time Systems”, Addison-Wesley, 2003.
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.
1. www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. LABVIEW Software

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
<ul style="list-style-type: none">• One lecture rooms with 40 seats• One laboratory with 20 seats
2. Technology resources (AV, data show, Smart Board, software, etc.)
<ul style="list-style-type: none">• Data Show (Projectors) in lecture room and lab• LABVIEW Software• NI devices
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching
<ul style="list-style-type: none">• At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department
<ul style="list-style-type: none">• Departmental evaluation from students about teacher• Course evaluation report from the course coordinator after the exam
3. Processes for Improvement of Teaching

- Observations made from the course evaluation report by the course coordinator
- Head of department observations, suggestions, instructions etc.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The course coordinator verify the standards of the student achievements

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The subjects are reviewed periodically by the Subject committee and the head of the department for improvement. Subject committee comprising of all theory and lab tutors of the course. Need to conduct at least one meeting per semester to review the progress and effectiveness of the course.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



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ATTACHMENT 5

T6. COURSE SPECIFICATIONS (CS)

Course Code: **472-CCE-3**
Course Name: **Robotics**

Course Specifications

Institution: King Khalid University	Date: 01-02-2018
College/Department : College of Computer Science / Computer Engineering	

A. Course Identification and General Information

1. Course title and code: Robotics 472-CCE-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. Bachelor in Computer Engineering			
4. Name of faculty member responsible for the course Dr. Mohammad Shiblee			
5. Level/year at which this course is offered: Level 9 or Level 10 (Elective course)			
6. Pre-requisites for this course (if any): Nil			
7. Co-requisites for this course (if any): Nil			
8. Location if not on main campus: Nil			
9. Mode of Instruction (mark all that apply):			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="90%"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="10%"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?

This course introduce students to:

- The working principal of a robot
- The basic components of a robot.
- The robotics principles through laboratory exercises.
- Basic functions for robots and applications.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

This course will be regularly revised and developed by conducting meetings with the Head of the Department, Course Coordinator and course teachers.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course introduces students to the basics of robotics at the system level. The course covers robotics definition, history, types, uses, and laws of robotics. This course introduces the key components of a robot: Mechanical Structure of robotics (motors, Gears and chains, Pulleys and belts, Gearboxes), Sensors (vision, force, proximity, tilt), actuators (Hydraulic Motor, Pneumatic Cylinder, Stepper Motor, DC Motor, Servo Motor, Muscle Wire, Pneumatic Motor), and Hardware (controllers, storage, interface). The course discusses the robots applications: Industrial Applications of Robots, Robots in Space, Robots in Hazardous Environments, Medical Robots, Robots in Military, and Robots at Home. The design requirements for robotics parts. Future of robotics

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Basics of Robotics: Definition, history, types, uses, and laws of robotics	3	6
The key components of a robot: Mechanical Structure of robotics (motors, Gears and chains, Pulleys and belts, Gearboxes), Sensors (vision, force, proximity, tilt), actuators (Hydraulic Motor, Pneumatic Cylinder, Stepper Motor, DC Motor, Servo Motor, Muscle Wire, Pneumatic Motor), and Hardware (controllers, storage, interface).	4	8
Robots applications: Industrial Applications of Robots, Robots in Space, Robots in Hazardous Environments, Medical Robots, Robots in Military, and Robots at Home.	3	6
Basic design requirements for robotics parts: How to identify the purpose and the required robotic components and then how to construct them.	3	6
Future of Robotics: Growth of robot as a service, Growth in robots outside the factory, Robotics for Ecommerce, Arrival of the Intelligent RoboNet and more collaborative robots.	2	4
Syllabus and Schedule for the Laboratory Work		
Introduction to Robotics	1	2
Positions of End-Effectors in a Robotic Mechanism	1	2

Angles of Arms in a Robotic Mechanism	1	2
Sub-VI to find Area under a Robotic Mechanism	1	2
Balancing of Robot using Sensor Fusion	1	2
Distance using Proximity Sensor	1	2
Forward Kinematics of Two-Arm Robot	1	2
Inverse Kinematics of a Two – Arm Robot	1	2
Introduction to Arduino.	2	4
Rotation control of stepper motor using Arduino	1	2
PWM servo control using Arduino	1	2
Servo motor Control using IR remote & Arduino	1	2
Speed control of stepper motor using Arduino	1	2
Final Exam	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		30			60
Credit	Planned	2		1			3
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	State the concept of sensors and actuators.	Lectures	Exams, Long and short essay
2.0	Cognitive Skills		
2.1	Explain programming principles for robot control.	Lecture, Lab demonstrations,	Exams, Long and short essay.
2.2	Select suitable sensors and actuators for specific robotic applications.	Lecture, Lab demonstrations,	Exams, Long and short essay.
2.3	Explain the impact of robotics in a global and economical context.	Lecture, Lab demonstrations,	Exams, Long and short essay.
3.0	Interpersonal Skills & Responsibility		
3.1	Act responsibly and ethically in conducting robotic experiments.	Lab demonstrations, Small group work	Lab report, Work log, peer evaluation
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate oral communication skills to talk about ideas of robotics.	Small group work, group discussion	Lab report

5.0	Psychomotor		
5.1	NA		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
2.1			✓								
2.2				✓							
2.3						✓					
3.1								✓			
4.1											✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments, quizzes –Theory	Throughout the semester	5%
2	Midterm-1 Exam - Theory	Week 7	10%
3	Midterm-2 Exam - Theory	Week 11	10%
4	Lab activity	W1-W13	12%
5	Home work– Lab	Week 13	3%
6	Final Exam – Lab	Week 15	10%
7	Final Exam -Theory	Week 16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- 10 office hours by each theory & lab faculty in a weekly schedule

E Learning Resources

1. List Required Textbooks

S K Saha, Introduction to Robotics, 2nd edition, McGraw Hill Education, 2014. ISBN-10: 9339213637, ISBN-13: 978-9339213633.

2. List Essential References Materials (Journals, Reports, etc.)

1. John J Craig, Introduction to Robotics, Mechanics and Control, Prentice Hall, 2017. ISBN-13: 978-0133489798, ISBN-10: 0133489795
2. Maja J Mataric, The Robotics Primer, The MIT Press, 2007, ISBN 978-0-262-63354-3
3. Robin R Murphy, Introduction to AI Robotics, MIT Press, 2000, ISBN: 9780262133838, ISBN: 9780262332804.

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

None

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

None

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- One lecture rooms with 40 seats
- One laboratory with 20 seats

2. Technology resources (AV, data show, Smart Board, software, etc.)

- Data Show (Projectors) in lecture room and lab
- One server & 20 client systems with necessary software (Including Prolog, MATLAB and LabView.

3. Other resources :None

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Departmental evaluation from students about teacher
- Course evaluation report from the course coordinator after the exam

3. Processes for Improvement of Teaching

- Observations made from the course evaluation report by the course coordinator
- Head of department observations, suggestions, instructions etc.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The course coordinator verify the standards of the student achievements

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

The subjects are reviewed periodically by the Subject committee and the head of the department for improvement. Subject committee comprising of all theory and lab tutors of the course. Need to conduct at least one meeting per semester to review the progress and effectiveness of the course.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



هيئة تقويم التعليم
Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

ATTACHMENT 5

T6. COURSE SPECIFICATIONS (CS)

Course code: **455-CCE-3**
Course Name: **Wireless Networks**

Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department : Computer Science/ Computer Engineering	

A. Course Identification and General Information

1. Course title and code: Wireless Networks 455-CCE-3			
2. Credit hours: 3			
3. Program(s) in which the course is offered. (If general elective available in many programs indicate this rather than list programs) Bachelor in Computer Engineering			
4. Name of faculty member responsible for the course:			
5. Level/year at which this course is offered: 9th/10th Level/ 5th Year.			
6. Pre-requisites for this course (if any): NA			
7. Co-requisites for this course (if any): NA			
8. Location if not on main campus: NA			
9. Mode of Instruction (mark all that apply):			
a. Traditional classroom	<input type="checkbox"/> Yes	What percentage?	<input type="text" value="100"/>
b. Blended (traditional and online)	<input type="checkbox"/> No	What percentage?	<input type="text" value="-"/>
c. e-learning	<input type="checkbox"/> No	What percentage?	<input type="text"/>
d. Correspondence	<input type="checkbox"/> No	What percentage?	<input type="text" value="-"/>
f. Other	<input type="checkbox"/> No	What percentage?	<input type="text" value="-"/>
Comments: NA			

B Objectives

1. What is the main purpose for this course?

This course will give students insight to:

1. Foundations for wireless networks
2. Have a broad awareness IEEE802.11 standards and performance
3. Introduce Bluetooth and WIMAX technologies and standards
4. The basics and challenges of MANET and WSN at multiple protocol levels.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- a. Using the e-learning system to enable students to get more materials of the subject
- b. Additional tutorials and textbook reading assignments.
- c. Introducing mini-projects in lab activities.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course introduces fundamentals of wireless networks. DCF and PCF modes are discussed in addition to CSMA/CA and RTS/CTS frames and timers in 802.11 standard framing. Various WI-FI standards are also discussed. Then Bluetooth piconets concept and features are discussed. MANETS routing protocols such as AODV, OLSR, DSR analysis is followed by the discussion of WSN as special data centered network where specific clustering and routing algorithms are illustrated in emergency WSNs. An overview of WIMAX 802.16 metropolitan network is finally introduced.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction to Wireless Networks	1	2
Multiple Radio Access Control Protocols: CSMA/CA, DCF, PCF modes CSMA with (RTS/CTS), SIFS, PIFS, DIFS	2	4
802.11 framing, AP functions and bridging	1	2
WLANs: IEEE 802.11, An Overview of IEEE 802.11 Series Protocols (a,b,g,n, s, ac), Enhancement for IEEE 802.11 WLANs.	2	4
WPAN Bluetooth 802.15, Piconet and inter piconet communication.	2	4
Mobile Adhoc Networks: Routing in MANETS, distance vector and link state drawbacks, DSR, OLSR, DSDV and AODV protocols.	3	6
Wireless Sensor Network: Low power wireless, data centered network, MAC protocols issues, clustering algorithms and routing protocols Time sync and localization, Data aggregation and redundancy and storage, Energy management.	3	6
Wireless Metropolitan Area Networks: WMANs using WiMAX, IEEE 802.16 based WiMAX	1	2
Lab details	Week	Contact hours
Medium Access Control Analysis	1	2
DCF, PCF, RTS, CTS throughput measurements	1	2
802.11x framing Analysis, Access Point (AP), bridging mode	1	2

WIFI infrastructure, design configuration, performance analysis and evaluation	2	4
Wi-Fi security configuration	1	2
Bluetooth configuration, building Piconets and multipiconets, performance measurements	1	2
Creating ADHOC network access control analysis	1	2
AODV, DSDV implementation, performance, failure management	2	4
OLSR, DSDV implementation, performance, failure management.	2	4
WSN clustering algorithm: implementation and performance evaluation	1	2
Geographic Routing in WSN: implementation convergence and failure reconfiguration.	1	2
WIMAX configuration, performance measurements	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	Planned	30		30			60
	Actual	30		30			60
Credit	Planned	2		1			3
	Actual	2		1			3

3. Additional private study/learning hours expected for students per week.

2

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Describe DCF, CSMA/CA, CTS, RTS and PCF modes and recognize 802.11x framing in AP and bridging modes	Lectures	Exam, Quizzes, Assignments
1.2	Identify present the trends in wireless networks and justify their impact.	Lectures, Labs	Exam, Quizzes, Assignments, Reports
2.0	Cognitive Skills		
2.1	Explain standards and protocols for wireless networks.	Lab activities + Projects	Configure in Lab work
2.2	Evaluate wireless networks and analyze them using simulation tools.		
p3.0	Interpersonal Skills & Responsibility		
3.1	Demonstrate the team work through small	Small group	Lab homework

	group wireless project		
4.0	Communication, Information Technology, Numerical		
4.1	Show how to present the trends in wireless networks and justify the used technology	Small group	Lab homework
5.0	Psychomotor		
5.1	NA	NA	NA

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
1.2		✓									
2.1			✓								
2.2					✓						
3.1							✓				
4.1										✓	✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments and Quizzes	4-12	5%
2	Midterm Exam	8	10%
3	Mid 2 Exam	13	10%
4	Lab activities	1-15	12%
5	Lab Assignment	5-15	3%
6	Lab Exam	14	10%
7	Final Exam	16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week):
10 office hours per week

E Learning Resources

1. List Required Textbooks

1. Dharma Prakash Agrawal, Introduction to Wireless and Mobile Systems, Cengage Learning; 4th edition, ISBN-13: 978-1305087132, 2014.
2. Carlos.M. Cordiero, Ad hoc and sensor networks: theory and applications, World Scientifics, ISBN 981-256-681-3, 2006.

2. List Essential References Materials (Journals, Reports, etc.)

1. Garg, Vijay Kumar, Wireless Communications and Networking, The Morgan Kaufmann Series in Networking, Morgan Kaufmann, 1 edition, ISBN-13: 978-0123735805, 2007
2. William Stallings, Wireless Communications and Networks, Pearson; 2nd edition, ISBN-13: 978-0131918351, 2004.

3. H. Karl and A. Willig, Protocols and Architectures for Wireless Sensor Networks, Wiley-Interscience, 2007. ASIN: B01FIX2B0U
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. Through Black Board (E-learning system website of KKU) : lms.kku.edu.sa
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. 1. Cisco Packet Tracer 2. NS 2.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) 1. 40 students capacity room with Data Show , 2. 20 students capacity lab with network lab equipment.
2. Technology resources (AV, data show, Smart Board, software, etc.) 1. 1 Computer for lecturing room with wireless projectors. 2. 21 computers for lab + Cisco networks lab equipment and software.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching • At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department • Departmental evaluation from students about teacher • Course evaluation report from the course coordinator after the exam
3. Processes for Improvement of Teaching • Observations made from the course evaluation report by the course coordinator • Head of department observations, suggestions, instructions etc.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) • The course coordinator verify the standards of the student achievements
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. • The subjects are reviewed periodically by the Subject committee and the head of the department for improvement. Subject committee comprising of all theory and lab tutors of the course. Need to conduct at least one meeting per semester to review the progress and effectiveness of the course.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____



المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

المدخل إلى الثقافة الإسلامية

١١١ سلم-٢



المؤسسة التعليمية: جامعة الملك خالد
الكلية/ الشريعة وأصول الدين القسم: العقيدة والمذاهب المعاصرة

أ. التعريف بالمقرر الدراسي ومعلومات عامة عنه

١. اسم المقرر الدراسي ورمزه: المدخل إلى الثقافة الإسلامية - ١١١ سلم
٢. عدد الساعات المعتمدة: ساعتان
٣. البرنامج (أو البرامج) الذي يقدم ضمنه المقرر الدراسي: متطلب عام للجامعة (في حال وجود مقرر عام في عدة برامج، بيّن هذا بدلاً من إعداد قائمة بكل هذه البرامج)
٤. السنة أو المستوى الدراسي الذي يعطى فيه المقرر الدراسي: المستوى الأول
٥. المتطلبات السابقة لهذا المقرر (إن وجدت): لا يوجد
٦. المتطلبات المتزامنة مع هذا المقرر (إن وجدت): لا يوجد
٧. موقع تقديم المقرر، إن لم يكن في المقر الرئيس للمؤسسة التعليمية:
٨. نمط الدراسة المتبع (اختر كل ما ينطبق):
أ. قاعات المحاضرات التقليدية <input type="checkbox"/> النسبة: %٠
ب. التعليم الإلكتروني <input checked="" type="checkbox"/> النسبة: %١٠٠
ج. تعليم مدمج (تقليدي وعن طريق الإنترنت) <input type="checkbox"/> النسبة: %٠
د. بالمراسلة <input type="checkbox"/> النسبة: %٠
هـ. أخرى <input type="checkbox"/> النسبة: %٠
تعليقات:

ب. الأهداف

١- ما هدف المقرر الرئيس؟ - رسوخ العقيدة الصحيحة المستمدة من الكتاب والسنة في نفوس الطلبة. - إلمام الطالب بأصول الإيمان الستة. - إدراك الطالب ما يناق في الإيمان أو كماله، والوقاية منها.
٢- اذكر بإيجاز أي خطط - يتم تنفيذها - لتطوير وتحسين المقرر الدراسي . (مثل الاستخدام المتزايد لتقنية المعلومات أو مراجع الإنترنت، والتغييرات في المحتوى كنتيجة للأبحاث الجديدة في مجال الدراسة). - الاستخدام المتزايد لتقنية المعلومات ، ومراجع الإنترنت . - متابعة التغييرات في المحتوى تبعاً للتطورات ذات الصلة بالمقرر .

ج. وصف المقرر الدراسي (ملاحظة: المطلوب هنا وصف عام بالطريقة نفسها المستخدمة في النشرة التعريفية أو دليل البرنامج).

وصف عام للمقرر:
التعريف بالثقافة الإسلامية زخصائصها ، وتوضيح معنى العقيدة ، وأصولها ، وبيان ما يتعلق بتوحيد الربوبية ، والألوهية ، والوسائل الفعلية والقولية المفضية إلى الشرك ، وبيان ما يجب لله تعالى ، وبيان أركان الإيمان وما يتعلق بها ، وبيان البدعة وما يتعلق بها ، ومنهج أهل السنة والجماعة في الرد عليهم .

١ - الموضوعات التي ينبغي تناولها :		
ساعات التدريس	عدد الأسابيع	قائمة الموضوعات
٢	١	١- تعريف الثقافة وخصائصها، وتوضيح معنى العقيدة، والدعوة إلى العقيدة، وأصول العقيدة.
٢	١	٢- توحيد الربوبية والألوهية ومعناهما والعلاقة بينهما
٢	١	٣- أساليب القرآن في الدعوة إلى توحيد الألوهية، وصور الشرك وخطره.
٢	١	٤- الوسائل الفعلية والقولية المفضية إلى الشرك، وبيان أنواع من الشرك الأكبر، الشرك في الخوف، وفي التوكل، وفي المحبة وفي الطاعة.
٢	١	٥- أمور يفعلها بعض الناس وهي من الشرك أو من وسائله، وتعريف الشرك الأصغر وأنواعه وأحكامه.
٢	١	٦- بيان ألفاظ لا يجوز أفعال في حق الله تعالى تعظيماً لشأنه، ومعنى توحيد الأسماء والصفات.
٢	١	٧- وجوب احترام أسماء الله وصفاته، ومنهج أهل السنة والجماعة في ذلك، والرد على المخالفين
٢	١	٨- الإيمان بالملائكة، وأعمالهم، وكذلك الإيمان بالكتب، وموقف القرآن من الكتب السابقة
٢	١	٩- الإيمان بالرسول، ودلائل النبوة، وبيان أن دين الأنبياء واحد.
٢	١	١٠- الإيمان باليوم الآخر، وأشراط الساعة، والإيمان بما يكون بعد الموت من عذاب القبر ونعيمه، والبعث والنشور، والجنة والنار.
٢	١	١١- الإيمان بالقضاء والقدر، وأثره في عقيدة المسلم، مع بيان نواقض الإيمان إجمالاً.
٢	١	١٢- دعوى تقارب الأديان، عرضها ونقدها.
٢	١	١٣- حكم أهل المعاصي، وعلاقة ذلك بقضية التكفير.
٢	١	١٤- تعريف البدعة، وأنواعها، وأحكامها، وأسباب ظهور البدع في حياة المسلمين + اختبار أعمال الفصل ٢
٢	١	١٥- موقف الأمة الإسلامية من المبتدعة، ومنهج أهل السنة والجماعة في الرد عليهم، مع نماذج من البدع المعاصرة.
٣٠	١٥	المجموع

١. إجمالي عدد ساعات المقرر وتوزيعها:						
المجموع	أخرى	تطبيق	معامل أو استديو	دروس إضافية	محاضرات	
٢	---	---	---	--	٢	ساعات التدريس الفعلية
٢	---	---	---	---	٢	الساعات المعتمدة

٢. عدد ساعات الدراسة / التعلم الفردي (الإضافي) التي يقوم بها الطالب خلال أسبوعياً: يقضي الطالب بعض الوقت أسبوعياً في المشاركات الإلكترونية وحل الواجبات ونحوها ، بما يعادل ساعة تقريباً .

٣. مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات واتساقها مع طرق قياسها واستراتيجيات تدريسها

جدول مخرجات التعلم للمقرر

م	مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات	استراتيجيات التدريس للمقرر	طرق التقويم
١	المعرفة		
١-١	التعرف على مفهوم الثقافة الإسلامية وخصائصها .	- المحاضرة . - المناقشة . - الأبحاث القصيرة . - التعلم التعاوني .	- الاختبارات التحريرية الشهرية والفصلية . - تقييم الأبحاث القصيرة .
٢-١	التعرف على أصول الإيمان تفصيلاً	- المحاضرة . - المناقشة . - الأبحاث القصيرة . - التعلم التعاوني .	- الاختبارات التحريرية الشهرية والفصلية . - تقييم الأبحاث القصيرة .
٣-١	التعرف على البدع وأحكامها وما يناقض الإيمان، وأحكام أهل المعاصي إجمالاً.	- المحاضرة . - المناقشة . - الأبحاث القصيرة . - التعلم التعاوني .	- الاختبارات التحريرية الشهرية والفصلية . - تقييم الأبحاث القصيرة .
٢	المهارات المعرفية		
١-٢	- استشعار عظمة الخالق تبارك وتعالى ودعاؤه بأسمائه وصفاته.	- المحاضرة . - المناقشة . - الأبحاث القصيرة . - التعلم التعاوني .	- الاختبارات التحريرية الشهرية والفصلية . - تقييم الأبحاث القصيرة .
٢-٣	قدرة الطالب على مناقشة أهل البدع ودحض شبههم بالأدلة والبراهين.	- المحاضرة . - المناقشة . - الأبحاث القصيرة . - التعلم التعاوني .	- الاختبارات التحريرية الشهرية والفصلية . - تقييم الأبحاث القصيرة .
٣	مهارات العلاقات الشخصية وتحمل المسؤولية		
١-٣	- الاتصال الفاعل والمؤثر من خلال نشر العقيدة الإسلامية للآخرين.	- المحاضرة . - المناقشة والجوار .	- التمارين التدريبية . - الأنشطة المكتبية .

م	مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات	استراتيجيات التدريس للمقرر	طرق التقويم
		- التعليم التعاوني . - الأبحاث القصيرة	- حل القضايا المشكلة . - دراسة حالة من الحالات
٢-٣	- القدرة على الحوار مع الآخرين بالأداب الشرعية.	- المحاضرة - المناقشة والحوار . - التعليم التعاوني . - الأبحاث القصيرة	- التمارين التدريبية . - الأنشطة المكتبية . - حل القضايا المشكلة . - دراسة حالة من الحالات
٤	مهارات الاتصال ومهارات تقنية المعلومات والمهارات العددية		
١-٤	التواصل مع أعضاء هيئة التدريس بالقسم لعرض نتائج أعماله عليهم .	الواجبات الجماعية	تقييم الواجبات الجماعية.
٢-٤	جمع مفردات المادة العلمية لبحوثه القصيرة من مصادرها الأصلية .	دراسة حالة .	تقييم دراسات الحالة .
	استخدام البرامج الإلكترونية بمهارة في الوصول إلى المعلومات المتعلقة ببحوثه القصيرة .	حل المشكلات . التعلم الذاتي	تقييم حل المشكلات . تقييم التعلم الذاتي .
٥	المهارات النفسية الحركية (إن وجدت)		
١-٥	لا ينطبق		

١. جدول مهام تقويم الطلبة خلال الفصل الدراسي:			
م	مهام التقويم (المطلوبة)	الأسبوع المحدد لتسليمه	نسبته من التقييم النهائي
٢	الواجبات والمنديات	مستمر	١٠%
٣	الاختبار الفصلي	١١	٣٠%
٤	الاختبار النهائي	آخر الفصل	٦٠%

د. الإرشاد الأكاديمي للطلاب ودعمهم :

<p>ترتيبات إتاحة أعضاء هيئة التدريس والهيئة التعليمية للاستشارات والإرشاد الأكاديمي الخاص لكل طالب (مع ذكر مقدار الوقت الذي يتوقع أن يتواجد خلاله أعضاء هيئة التدريس لهذا الغرض في كل أسبوع).</p> <p>- خمس ساعات مكتبية للأستاذ في الأسبوع يتم تنسيقها مع القسم . - الإرشاد الأكاديمي عبر الوحدات الخاصة بذلك في كل كلية .</p>
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هـ. مصادر التعلم

<p>١. أدرج - في قائمة - الكتب المقررة المطلوبة:</p> <ul style="list-style-type: none"> • المرجع الرئيس : - كتاب الإرشاد إلى صحيح الاعتقاد والرد على أهل الشرك والإلحاد (د.صالح الفوزان) • المراجع المساعدة : - لمحات في الثقافة الإسلامية لعمر الخطيب. - التوحيد للشيخ محمد بن عبد الوهاب بشرح عبدالرحمن بن حسن.

- الدين لمحمد دراز.
٢. أدرج - في قائمة - المواد المرجعية الأساسية (المجلات العلمية والتقارير وغيرها): - مواقع الجمعيات العلمية كجمعية الثقافة الإسلامية وجمعية علوم العقيدة .
٣. أدرج المواد الإلكترونية ومواقع الإنترنت ومواقع التواصل الاجتماعي وغيرها: - مجلة جامعة الملك خالد . - مجلة البحوث الفقهية المعاصرة .
٤. أدرج أي مواد تعليمية أخرى مثل البرامج الحاسوبية، البرمجيات، والأسطوانات المدمجة: - مكتبة الفقه . - جامع التراث .

و. المرافق المطلوبة :

بيّن متطلبات المقرر الدراسي من المرافق بما في ذلك حجم القاعات الدراسية والمختبرات (أي عدد المقاعد داخل القاعات الدراسية والمختبرات، وعدد أجهزة الحاسب الآلي المتاحة، وغيرها):
١. المباني (قاعات المحاضرات، والمختبرات، وقاعات العرض، والمعامل، وغيرها): - حجرة دراسية تتسع لعدد (٤٠) طالباً.
٢. مصادر تقنية (أدوات عرض البيانات، واللوحات الذكية، والبرمجيات وغيرها): سبورة ذكية - جهاز عرض .
٣. مصادر أخرى (حددها: مثلاً إذا كان هناك حاجة إلى تجهيزات مخبرية خاصة، فاذكرها، أو أرفق قائمة بها): الربط الإلكتروني في حال كانت المحاضرات تقدم للطلبات .

ز. تقويم المقرر الدراسي وإجراءات تطويره :

١. استراتيجيات الحصول على التغذية الراجعة من الطلاب بخصوص فعالية التدريس: - استبانات تقييم الطلاب للمقرر . - الحصول على نتائج الطلاب من خلال الاختبارات .
٢. استراتيجيات أخرى لتقويم عملية التدريس من قبل الأستاذ أو القسم: - كتابة تقرير يتضمن مرنّيات الأستاذ في المقرر. - تحليل نتائج الطلاب.
٣. إجراءات تطوير التدريس : - العمل بتوصيات أستاذ المقرر في تقرير المقرر . - عقد ورش حول تطوير المقرر .
٤. إجراءات التحقق من معايير إنجاز الطالب : تبادل الخبرات بين أعضاء هيئة التدريس عن طريق عقد ورش عمل مشتركة في هذا الشأن.
٥. صف إجراءات التخطيط للمراجعة الدورية لمدى فعالية المقرر الدراسي والتخطيط لتطويره: - مراجعة وتطوير المقرر بما يتناسب مع الواقع. - تطوير وسائل التعليم والإفادة من التقنيات الحديثة. - دورات تطويرية لأعضاء هيئة التدريس. - مقارنة المقرر بالمقرر المماثل في الكليات المناظرة في الجامعات الأخرى.

اسم منسق البرنامج: رئيس قسم العقيدة والمذاهب المعاصرة

التاريخ

التوقيع:



المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

الثقافة الإسلامية - ٢
١١٢ سلم-٢



المؤسسة التعليمية: جامعة الملك خالد
الكلية/ الشريعة وأصول الدين القسم: العقيدة والمذاهب المعاصرة

أ. التعريف بالمقرر الدراسي ومعلومات عامة عنه

١. اسم المقرر الدراسي ورمزه: الثقافة الإسلامية-٢ ١٢اسلم-٢	
٢. عدد الساعات المعتمدة: ساعتان	
٣. البرنامج (أو البرامج) الذي يقدم ضمنه المقرر الدراسي: متطلب جامعي (في حال وجود مقرر عام في عدة برامج، يبين هذا بدلاً من إعداد قائمة بكل هذه البرامج)	
٤. السنة أو المستوى الدراسي الذي يعطى فيه المقرر الدراسي: المستوى الثالث	
٥. المتطلبات السابقة لهذا المقرر (إن وجدت): لا يوجد	
٦. المتطلبات المترتبة مع هذا المقرر (إن وجدت): لا يوجد	
٧. موقع تقديم المقرر، إن لم يكن في المقر الرئيس للمؤسسة التعليمية: لا يوجد	
٨. نمط الدراسة المتبع (اختر كل ما ينطبق):	
أ. قاعات المحاضرات التقليدية	<input type="checkbox"/> النسبة: %٠
ب. التعليم الإلكتروني	<input checked="" type="checkbox"/> النسبة: %١٠٠
ج. تعليم مدمج (تقليدي وعن طريق الإنترنت)	<input type="checkbox"/> النسبة: %٠
د. بالمراسلة	<input type="checkbox"/> النسبة: %٠
هـ. أخرى	<input type="checkbox"/> النسبة: %٠
تعليقات:	

أ. الأهداف :

١- ما هدف المقرر الرئيس ؟
١- التعرف على الآثار المترتبة على تطبيق النظام الإسلامي على حياة الأفراد والمجتمعات
٢- الإمام بحقوق ولاية الأمر في الشريعة الإسلامية .
٣- التعرف على حقوق الإنسان في الشريعة الإسلامية والنظم الوضعية .
٤- التعرف على مزايا الاقتصاد الإسلامي
٥- التعرف على خصائص النظام الاقتصادي الإسلامي وما يضمنه للأمة من التقدم والتنمية والاستقلال الاقتصادي المنشود
٢- اذكر بإيجاز أي خطط - يتم تنفيذها - لتطوير وتحسين المقرر الدراسي .
- الاستخدام المتزايد لتقنية المعلومات ، ومراجع الإنترنت .
- متابعة التغييرات في المحتوى تبعاً للتطورات ذات الصلة بالمقرر .

ج. وصف المقرر الدراسي :

وصف عام للمقرر:
التعريف بالنظام السياسي في الإسلام ، وبيان مزاياه ، ومفهومه ، وغايته ، وبيان أهم قواعد النظام

الاساسي في الإسلام ، مع التعريف بالسلطات : (التشريعية ، والقضائية ، والتنفيذية)، وبيان أهم مظاهر تطبيق الإسلام بالمملكة العربية السعودية : (النظام الاساسي للحكم – الشورى – القضاء – التعليم – الأمر بالمعروف والنهي عن المنكر) ، وبيان حقوق وواجبات ولي الأمر في الشريعة الإسلامية ، التعريف بحقوق الإنسان في الإسلام وأهميتها ، وبيان حقوق أهل الذمة والمستأمنين وغيرهم من المقيمين في الدولة الإسلامية .

١. الموضوعات التي ينبغي تناولها:		
ساعات التدريس	عدد الأسابيع	قائمة الموضوعات
١	٥	مقدمة:تعريف بالمقرر
٤	٢	أولاً : الجانب السياسي : ١-مزايا النظام السياسي في الإسلام . ٢-مفهوم الدولة في الإسلام . ٣-الغاية من قيام الدولة في الإسلام . أركان الدولة الإسلامية . ٤- ٥- العلاقات الخارجية للدولة الإسلامية في حال السلم والحرب .
٢	١	٦- قواعد النظام السياسي في الإسلام (الشورى – العدل – المساواة – الحرية)
٢	١	٧- السلطات الثلاث في الدولة الإسلامية (السلطة التنظيمية أو التشريعية – السلطة القضائية – السلطة التنفيذية)
٢	١	٨- من مظاهر تطبيق الإسلام في المملكة العربية السعودية (النظام الاساسي للحكم – الشورى – القضاء – التعليم – الأمر بالمعروف والنهي عن المنكر)
٢	١	٩- حقوق ولي الأمر في الشريعة الإسلامية : • حق السمع والطاعة لولاة الأمر والأدلة على ذلك . • حق الوفاء بالبيعة لولي الأمر والأدلة على ذلك . • حق الاحترام والتقدير لولاة الأمور والأدلة على ذلك . • حق النصح لولاة الأمور والأدلة على ذلك . • كيفية النصيحة لولاة الأمر والأدلة على ذلك .
٢	١	١٠-واجبات ولي الأمر في الدولة الإسلامية
٢	١	١٢- التعريف بحقوق الإنسان في الإسلام وأهميتها . ١٣- مصادر الحق بين الإسلام والنظم الوضعية ١٤- حقوق الإنسان في الإسلام (العدل – الحرية – الحياة – السلامة – المساواة) حدودها وضوابطها وخصائصها .
٢	١	١٥- المقارنة بين المفهوم الإسلامي والمفهوم الغربي لحقوق الإنسان ١٦- الإعلان العالمي لحقوق الإنسان في المواثيق الدولية وموقف المملكة منه .
٢	١	١٧- حقوق أهل الذمة والمستأمنين وغيرهم من المقيمين في الدولة الإسلامية .

		١٨- الأصل في علاقة المسلمين بغير المسلمين في الشريعة الإسلامية
٢	١	١٩- مفاهيم معاصرة في ضوء الإسلام (العلمانية – الديمقراطية – العولمة)
٢	١	ثانياً : الجانب الاقتصادي : ١- مفهوم الاقتصاد الإسلامي . ٢- خصائص النظام الاقتصادي الإسلامي. ٣- أهداف النظام الاقتصادي الإسلامي .
٢	١	٤- الأركان الأساسية في الاقتصاد الإسلامي : • الملكية المزدوجة الخاصة والعامه . • الحرية الاقتصادية المقيدة . • التكافل الاجتماعي الاقتصادي .
٢	١	٥- المصارف ، تاريخها ، وأقسامها ٦- المعاملات المصرفية
١	٥	٧- التأمين وأقسامه .
٣٠	١٥	المجموع

٢. إجمالي عدد ساعات المقرر وتوزيعها:

المجموع	أخرى	تطبيق	معامل أو استديو	دروس إضافية	محاضرات	
٢	---	---	---	---	٢	ساعات التدريس الفعلية
٢	---	---	---	---	٢	الساعات المعتمدة

٣. عدد ساعات الدراسة / التعلم الفردي (الإضافي) التي يقوم بها الطالب خلال أسبوعياً:
يقضي الطالب حوالي ساعة أسبوعياً في الواجبات الإلكترونية والمنتديات التي يكلف بها الأستاذ ، وغير ذلك من موضوعات المقرر .

٤. مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات واتباعها مع طرق قياسها واستراتيجيات تدريسها

جدول مخرجات التعلم للمقرر

م	مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات	استراتيجيات التدريس للمقرر	طرق التقويم
١	المعرفة		
١-١	معرفة مفهوم الدولة في الإسلام وغايتها ، وأركانها .	المحاضرات . الحوار والمناقشة . استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل .	- الاختبارات التحصيلية - المناقشات . الاختبارات التحصيلية . الاختبارات القصيرة .
	معرفة مبادئ الحكم العامة في الإسلام والسلطات الثلاث في الدولة	المحاضرات . الحوار والمناقشة . استخدام تقنيات التعلم	- الاختبارات التحصيلية - المناقشات . الاختبارات التحصيلية .

الاختبارات القصيرة .	التعليم الذاتي . التعليم الإلكتروني الكامل.		
- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل.	معرفة حقوق ولاية الأمر وواجباتهم والعلاقة بين المسلمين وغيرهم	
- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل.	معرفة أحكام أهل الذمة في بلاد المسلمين .	
- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل.	معرفة مفهوم الاقتصاد الإسلامي وخصائصه وأهدافه .	
- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل.	معرفة أركانه وتاريخ المصارف والمعاملات المصرفية والتأمين وأقسامه دراسة موجزة بعيدة عن التفصيل الفقهي المطول .	٢-١
- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل.	معرفة ما يحل ويحرم من معاملات ،والموقف من معاملات البنوك والتأمين .	
المهارات المعرفية			٢
- المواقف العملية.	- الحوار والنقاش.	القدرة على التعرف على كيفية التعامل مع ولاية الأمر. القدرة على كيفية التواصل مع غير المسلمين ممن يقيمون في بلاد المسلمين .	١-٢
مهارات العلاقات الشخصية وتحمل المسؤولية			٣
تقييم الواجبات الجماعية.	الواجبات الجماعية	التواصل مع أعضاء هيئة التدريس بالقسم لعرض نتائج أعماله عليهم .	١-٣
تقييم دراسات الحالة .	دراسة حالة .	جمع مفردات المادة العلمية لبحوثه القصيرة من مصادرها الأصلية .	
مهارات الاتصال ومهارات تقنية المعلومات والمهارات العددية			٤
تقييم حل المشكلات. تقييم التعلم الذاتي .	حل المشكلات . التعلم الذاتي	استخدام البرامج الإلكترونية بمهارة في الوصول إلى المعلومات المتعلقة	١-٤

		ببحوثه القصيرة .	
٢-٤	تقييم حل المشكلات . تقييم التعلم الذاتي .	ترتيب المعلومات التي توصل إليها بما يتناسب مع الطرق العلمية .	
٥		المهارات النفسية الحركية (إن وجدت)	
١-٥		لا يوجد	

١. جدول مهام تقويم الطلبة خلال الفصل الدراسي:

م	مهام التقويم المطلوبة	الأسبوع المحدد لتسليمه	نسبته من التقييم النهائي
٢	الواجبات والمنتديات	مستمر	١٠%
٣	الاختبار الفصلي	١١	٣٠%
٤	الاختبار النهائي	آخر الفصل	٦٠%

د. الإرشاد الأكاديمي للطلاب ودعمهم :

ترتيبات إتاحة أعضاء هيئة التدريس والهيئة التعليمية للاستشارات والإرشاد الأكاديمي الخاص لكل طالب (مع ذكر مقدار الوقت الذي يتوقع أن يتواجد خلاله أعضاء هيئة التدريس لهذا الغرض في كل أسبوع).
- يقضي عضو هيئة التدريس خمس ساعات مكتنية أسبوعياً تحدد في جدول الأستاذ وتعلن للطلاب
- وحدة التوجيه والإرشاد الموجودة في كل كلية تقدم الدعم والتوجيه للطلاب .

هـ. مصادر التعلم

١. أدرج - في قائمة - الكتب المقررة المطلوبة: • المراجع الرئيسية : ١- النظام السياسي في الإسلام للدكتور : تيسير بن سعد أبو حيمد وآخرون. ٢- النظام الاقتصادي في الإسلام للدكتور : عمر فيحان المرزوقي وآخرون • المراجع المساعدة : ١- المعلوم من واجب العلاقة بين الحاكم والمحكوم لسماحة الشيخ عبد العزيز بن باز . ٢- معاملة الحكام في ضوء الكتاب والسنة .د. عبد السلام بن برجس العبد الكريم . ٣- النظام الاقتصادي في الإسلام مبادئه وأهدافه . د. أحمد العسال و د. فتحي عبد الكريم . ٤- بناء الاقتصاد الإسلامي ، زيدان أبو المكارم طلبة . ٥- الورد المقطوف في وجوب طاعة ولاة أمر المسلمين بالمعروف لأبي عبد الرحمن فوزي الأثري . ٦- العلاقة بين الحاكم والمحكوم في منظور السلف الصالح رضي الله عنهم ، لعبد الله بن رشيد الحدشاني . ٧- حقوق الإنسان بين الشريعة والقانون . لمحمد عنجيني. ٨- حقوق الإنسان في الإسلام ، د . أمير عبد العزيز . ٩- حقوق الإنسان في الإسلام ، د . علي عبد الواحد وافي . ١٠- حقوق الإنسان في الإسلام والرد على الشبهات المثارة حولها ، د . سليمان عبد الرحمن الحقييل.
٢. أدرج - في قائمة - المواد المرجعية الأساسية (المجلات العلمية والتقارير وغيرها): - مواقع الجمعيات العلمية الأسرية والتربوية ، والاقتصادية .
٣. أدرج المواد الإلكترونية ومواقع الإنترنت ومواقع التواصل الاجتماعي وغيرها: - مجلة جامعة الملك خالد . - مجلة البحوث الفقهية المعاصرة .
أدرج أي مواد تعليمية أخرى مثل البرامج الحاسوبية، البرمجيات، والأسطوانات المدمجة:

- مكتبة الفقه .
- جامع التراث .

و. المرافق المطلوبة :

بين متطلبات المقرر الدراسي من المرافق بما في ذلك حجم القاعات الدراسية والمختبرات :
١. المباني (قاعات المحاضرات، والمختبرات، وقاعات العرض، والمعامل، وغيرها): (حجرات المحاضرات والمختبرات .. الخ): - قاعات دراسية تتسع ل (٤٠) طالبا .
٢. مصادر تقنية (أدوات عرض البيانات، واللوحات الذكية، والبرمجيات وغيرها): - برامج التعلم الإلكتروني الكامل (بلاك بورد) . - معامل التعلم الإلكتروني .
٣. مصادر أخرى (حددها: مثلاً اذا كان هناك حاجة إلى تجهيزات مخبرية خاصة، فاذكرها، أو أرفق قائمة بها): - أجهزة ربط إلكتروني عندما تكون المحاضرة للطلبات .

ز. تقويم المقرر الدراسي وإجراءات تطويره :

١. استراتيجيات الحصول على التغذية الراجعة من الطلاب بخصوص فعالية التدريس: - الحصول على نتائج الطلاب من الاختبارات ووسائل التقويم الأخرى - المناقشة والحوار
٢. استراتيجيات أخرى لتقويم عملية التدريس من قبل الأستاذ أو القسم: - الارتقاء بالعلاقة بين الأستاذ والطالب . - متابعة الجديد في التخصص . - عقد ورش عمل لتطوير المقرر والإفادة من ملحوظات الطلاب ووجهات نظرهم والأساتذة الذين درّسوا المقرر .
٣. إجراءات تطوير التدريس: - الحرص على الوسائل المتعلقة بالمقرر (الكتاب + الحاسب) - تهيئة الجو المناسب للطلاب عن طريق البرامج الداعمة . - الارتقاء بالعلاقة بين الأستاذ والطالب . - متابعة الجديد في التخصص . - تنويع استراتيجيات التدريس وطرائق التقويم .
٤. إجراءات التحقق من معايير إنجاز الطالب : - مراجعة التصحيح من قبل أستاذ آخر في نفس التخصص من أعضاء القسم - مراجعة عينات عشوائية من أعمال الطلاب .
٥. صف إجراءات التخطيط للمراجعة الدورية لمدى فعالية المقرر الدراسي والتخطيط لتطويره: - ورش عمل لأساتذة المقرر. - لقاءات دورية بعينة من الطلاب لمعرفة الجوانب السلبية والإيجابية . - أخذ رأي مدرسي المقررات الأخرى ذات العلاقة لتطوير المقرر . - أخذ تقارير المقرر الدورية التي يكتبها الأساتذة في الاعتبار .

اسم منسق البرنامج:

التاريخ

التوقيع:



المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

الثقافة الإسلامية - ٣

١١٣ سلم - ٢



المؤسسة التعليمية: جامعة الملك خالد
الكلية/ الشريعة وأصول الدين القسم: العقيدة والمذاهب المعاصرة

أ. التعريف بالمقرر الدراسي ومعلومات عامة عنه

١. اسم المقرر الدراسي ورمزه: الثقافة الإسلامية - ٣ ١١٣ سلم-٢		
٢. عدد الساعات المعتمدة: ساعتان		
٣. البرنامج (أو البرامج) الذي يقدم ضمنه المقرر الدراسي: متطلب عام للجامعة (في حال وجود مقرر عام في عدة برامج، بيّن هذا بدلاً من إعداد قائمة بكل هذه البرامج)		
٤. السنة أو المستوى الدراسي الذي يعطى فيه المقرر الدراسي: حسب خطة الكلية		
٥. المتطلبات السابقة لهذا المقرر (إن وجدت): لا يوجد		
٦. المتطلبات المتزامنة مع هذا المقرر (إن وجدت): لا يوجد		
٧. موقع تقديم المقرر، إن لم يكن في المقر الرئيس للمؤسسة التعليمية:		
٨. نمط الدراسة المتبع (اختر كل ما ينطبق):		
أ. قاعات المحاضرات التقليدية	<input type="checkbox"/>	النسبة: %٠
ب. التعليم الإلكتروني	<input checked="" type="checkbox"/>	النسبة: %١٠٠
ج. تعليم مدمج (تقليدي وعن طريق الإنترنت)	<input type="checkbox"/>	النسبة: %٠
د. بالمراسلة	<input type="checkbox"/>	النسبة: %٠
هـ. أخرى	<input type="checkbox"/>	النسبة: %٠
تعليقات:		

ب. الأهداف

١- ما هدف المقرر الرئيس؟
١. التعرف على خصائص المجتمع الإسلامي والأسس التي يقوم عليها ووسائل الترابط الاجتماعي وأهم المشكلات الموجودة في المجتمع .
٢. الإلمام بتعاليم الإسلام في مجال تكوين الأسرة وإظهار دور المرأة في بناء الأسرة وتشكيل المجتمع .
٣. الإلمام بهدي الإسلام وتوجيهاته في قضايا الزواج وتربية الأولاد الأمر الذي يساعد على حفظ كيان الأسرة واستقرارها وبالتالي ترابط المجتمع وتقويته .
٤. التعرف على طرق معالجة الإسلام لما يحدث في نطاق الأسرة من قضايا ومشكلات .
٢- اذكر بإيجاز أي خطط - يتم تنفيذها - لتطوير وتحسين المقرر الدراسي .
- الاستخدام المتزايد لتقنية المعلومات ، ومراجع الإنترنت .
- متابعة التغييرات في المحتوى تبعاً للتطورات ذات الصلة بالمقرر .

ج. وصف المقرر الدراسي .

وصف عام للمقرر:
 بيان مفهوم المجتمع الإسلامي ، وخصائصه ، وأسس بنائه ، وأثر تطبيق الشريعة الإسلامية على الفرد والمجتمع ، ووسائل تقوية الروابط الاجتماعية ، وأسس بناء الأسرة في الإسلام ، ووسائل تقوية الروابط الأسرية .

١. الموضوعات التي ينبغي تناولها:		
ساعات التدريس	عدد الأسابيع	قائمة الموضوعات
٢	١	القسم الأول : التعريف بالمجتمع الإسلامي ويتكون مما يأتي : أولاً : مفهوم المجتمع الإسلامي . ثانياً : أسس بناء المجتمع الإسلامي : أ- الإنسان في الإسلام (من حيث خلقه ومكانته في الكون) ب- وحدة الأصل - وحدة العقيدة - وحدة التكليف والجزاء
٢	١	ثالثاً : مفهوم بناء المجتمع الإسلامي : - الالتزام بالكتاب والسنة . - الأخلاق الإسلامية ، ودورها في بناء العلاقات الاجتماعية . - العبادة وأثرها في سلوك الفرد والمجتمع . - تنظيم المعاملات على أسس إسلامية . - الأمر بالمعروف والنهي عن المنكر (يراعى إبراز دور وسائل الإعلام الحديثة في هذا المجال)
٢	١	- تطبيق الشريعة الإسلامية ، وأثره في إصلاح الفرد والمجتمع ، مع إبراز الصورة الملموسة لما هو موجود بالمملكة العربية السعودية ، ويراعى عند الحديث عن ذلك : - دفع الشبه المثارة حول نظام العقوبة في الإسلام .
٢	١	رابعاً : خصائص المجتمع الإسلامي .
٢	١	خامساً : وسائل تقوية الروابط الاجتماعية : - تشريع الزكاة . - تحمل العاقلة للدية . - حقوق الجار . - صلاة الجمعة والجماعة والعبيدين . - المشاركة في المناسبات المختلفة (الزواج ، عيادة المريض ، تشييع الجنزة) . - إفتاء السلام . - التزاور
٤	٢	سادساً : أهم المشكلات الاجتماعية : - الزنا والقذف والأخطار المترتبة عليهما . - انحراف الشباب (دور الأسرة ، دور المسجد ، دور المؤسسات التعليمية ، والهيئات الثقافيةألخ .
٢	١	القسم الثاني : الأسرة في الإسلام : ويشتمل على :

١. الموضوعات التي ينبغي تناولها:		
ساعات التدريس	عدد الأسابيع	قائمة الموضوعات
		أ- أصل الأسرة في الإسلام (الزواج الشرعي أصل الأسرة) ب- أهمية الأسرة في بناء المجتمع . ج- مكانة المرأة في الإسلام . ويتبع ذلك المقارنة بوضع المرأة في المجتمعات الغربية ، من خلال أوضاع معينة كالمساواة والاختلاط والعمل ، في هذا الإطار يلقي الضوء على الحجاب وحدود الزينة .
٢	١	ثانياً : مقدمات الزواج : - معايير الاختيار في الزواج . - المرأة التي تحل خطبتها . - شرعية الخطبة والأثر المترتب عليها . - النظر للمخطوبة وحدوده . - العدول عن الخطبة وما يتبعه من آثار .
٢	١	ثالثاً : الزواج وأهدافه : - تعريف العقد – وبيان حكم الزواج . - أركان العقد وشروطه
٢	١	- الأهداف : توجيه الغرائز بطريقة تتناسب مع مكانة الإنسان . - تحقيق السكن النفسي . - صيانة أفراد المجتمع من الانحراف . - المحافظة على النسل . - العناية بتربية النشء " بإبراز خطر الاعتماد في ذلك على الخادمة الأجنبية " . - ويختتم هذا ببيان اتجاه المجتمعات الغربية في تلبية نداء الغريزة الجنسية مع التعرض لتحريم الإسلام لكل ما يؤدي إلى الوقوع في الزنا من التبرج والاختلاط والنظر غير المباح .
٢	١	رابعاً : الآثار المترتبة على عقد الزواج : - حقوق الزوج . - حقوق الزوجة . - حقوق الأولاد
٢	١	خامساً : وسائل تقوية الروابط الأسرية : - بر الوالدين . - صلة الأرحام . - منع الزواج من المحارم . - نفقة الأقارب . - التوارث
٤	٢	سادساً : أهم قضايا الأسرة : - قوامة الزوج . - المشكلات الزوجية وطرق حلها . - الطلاق وأنواعه ، حدوده ، وقيوده . - الخلع – اللعان – الظهار – الإيلاء .

١. الموضوعات التي ينبغي تناولها:		
ساعات التدريس	عدد الأسابيع	قائمة الموضوعات
		<ul style="list-style-type: none"> - العدة وأنواعها . - النسب . - تعدد الزوجات

١. مكونات المقرر الدراسي (إجمالي عدد ساعات التدريس لكل فصل دراسي):						
المجموع	أخرى	العملي	معامل	دروس إضافية	محاضرات	
٢	لا يوجد	لا يوجد	لا يوجد	لا يوجد	٢	الساعات المؤداة فعلياً
٢					٢	الساعات المعتمدة

٢. عدد ساعات الدراسة / التعلم الفردي (الإضافي) التي يقوم بها الطالب أسبوعياً:
يقضي الطالب حوالي ساعة أسبوعياً في حل الواجبات والمشاركات في المنتديات التي يكلفهم بها أستاذ المقرر .

٣. مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات واتساقها مع طرق قياسها واستراتيجيات تدريسها

جدول مخرجات التعلم للمقرر

م	مخرجات التعلم وفقاً للإطار الوطني للمؤهلات	استراتيجيات التدريس للمقرر	طرق التقويم
١	المعرفة		
١-١	معرفة الأسس التي يقوم عليها المجتمع الإسلامي	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني	- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .
	معرفة النظام الأسري في الشريعة الإسلامية .	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل.	- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .
٢-١	معرفة أهم مشاكل الأسرة	المحاضرات . الحوار والمناقشة. استخدام تقنيات التعلم التعليم الذاتي . التعليم الإلكتروني الكامل.	- الاختبارات التحصيلية - المناقشات. الاختبارات التحصيلية . الاختبارات القصيرة .
٢	المهارات المعرفية		
١-٢	-القدرة على التمييز بين النظام الاجتماعي في الإسلام وغيره من النظم.	-المحاضرات	-الاختبارات.
٢-٢	-القدرة على معرفة مقومات المجتمع المسلم	الحوار والنقاش	المناقشات
٣	مهارات العلاقات الشخصية وتحمل المسؤولية		
١-٣	التواصل مع أعضاء هيئة التدريس بالقسم لعرض	الواجبات الجماعية	تقييم الواجبات الجماعية.

		نتائج أعماله عليهم .	
٢-٣	دراسة حالة .	جمع مفردات المادة العلمية لبحوثه القصيرة من مصادرها الأصلية .	تقييم دراسات الحالة .
٤	مهارات الاتصال ومهارات تقنية المعلومات والمهارات العددية		
١-٤	حل المشكلات . التعلم الذاتي	استخدام البرامج الإلكترونية بمهارة في الوصول إلى المعلومات المتعلقة ببحوثه القصيرة .	تقييم حل المشكلات . تقييم التعلم الذاتي .
٢-٤	تقييم حل المشكلات . تقييم التعلم الذاتي .	ترتيب المعلومات التي توصل إليها بما يتناسب مع الطرق العلمية .	
٥	المهارات النفس-حركية		
١-٥	لا ينطبق	لا ينطبق	لا ينطبق
٢-٥	لا ينطبق	لا ينطبق	لا ينطبق

١. جدول مهام تقويم الطلبة خلال الفصل الدراسي:			
م	مهام التقويم المطلوبة	الأسبوع المحدد لتسليمه	نسبته من التقييم النهائي
١	الاختبار الفصلي	١١	٣٠%
٤	الواجبات والمنتديات	مستمر	١٠%
٥	الاختبار النهائي	نهاية الفصل	٦٠%

د. الإرشاد الأكاديمي للطلاب ودعمهم:

١- ترتيبات إتاحة أعضاء هيئة التدريس والهيئة التعليمية للاستشارات والإرشاد الأكاديمي الخاص لكل طالب.
- يقضي عضو هيئة التدريس خمس ساعات مكتبية أسبوعياً.
- يقدم للطلاب التوجيه والإرشاد اللازم في الوحدات الخاصة بذلك في الكليات

هـ. مصادر التعلم :

١. الكتب المقررة المطلوبة:
• المراجع الرئيسية :
- الإسلام وبناء المجتمع تأليف أ.د. حسن عبد الغني أبو غدة وآخرون .
• المراجع المساعدة :
- أصول النظام الاجتماعي في الإسلام لمحمد الطاهر ابن عاشور .
- بناء الأسرة المسلمة في ضوء القرآن والسنة للشيخ خالد عبد الرحمن العك .
٢. قائمة ب مواد مرجعية أساسية (المجلات العلمية والتقارير وغيرها):
مواقع الجمعيات العلمية والتربوية والأسرية .
٣. المواد الإلكترونية ومواقع الإنترنت ومواقع التواصل الاجتماعي وغيرها:
- موقع الفقه الإسلامي .
٤. أي مواد تعليمية أخرى مثل البرمجيات والأسطوانات المدمجة، والمعايير واللوائح المهنية:
- المكتبة الشاملة

- جامع التراث

و. المرافق المطلوبة :

بين متطلبات المقرر الدراسي من المرافق بما في ذلك حجم القاعات الدراسية والمختبرات :

١. المباني (قاعات المحاضرات، والمختبرات، وقاعات العرض، والمعامل، وغيرها):
- قاعات دراسية تتسع لعدد (٤٠) طالباً .

٢. مصادر الحاسب الآلي (أدوات عرض البيانات واللوحات الذكية والبرمجيات وغيرها):
أجهزة عرض – سبورات ذكية

٣-مصادر أخرى (حدها: مثل الحاجة إلى تجهيزات مخبرية خاصة، فاذكرها، أو أرفق قائمة بها):
: قاعات التعلم الإلكتروني.

ز. تقويم المقرر الدراسي وإجراءات تطويره :

١-استراتيجيات الحصول على التغذية الراجعة من الطلاب بخصوص فعالية التدريس:
تحليل نتائج الاختبارات .
تقييم الطلاب للمقرر .
المقابلات مع الطلاب .

٢. استراتيجيات أخرى لتقويم عملية التدريس من قبل الأستاذ أو القسم:
- نتائج المناقشات التي تتم داخل القاعة الدراسية .
- تقويم النظير .
- لقاءات يعقدها القسم لتطوير المقرر .
- تقارير المقرر التي تكتب بصفة دورية .

٣- إجراءات تطوير التدريس :
- الارتقاء بالعلاقة بين الأستاذ والطالب .
- متابعة الجديد في التخصص .
- دورات تدريبية لأعضاء هيئة التدريس في استراتيجيات التدريس وبناء الاختبارات .
- العمل باقتراحات أعضاء تدريس المقرر .

٤-إجراءات التحقق من معايير إنجاز الطالب:

- تصحيح عينات عشوائية من أعمال الطلاب .
- تبادل كراسات التصحيح بين أعضاء هيئة التدريس .

٥-صف إجراءات التخطيط للمراجعة الدورية لمدى فعالية المقرر الدراسي والتخطيط لتطويرها:
- مناقشة تقارير المقرر في مجلس القسم .
- تحليل نتائج الطلاب والخروج بتوصيات فعالة .

اسم منسق البرنامج:

رئيس قسم الفقه

التاريخ

التوقيع:



المركز الوطني للتقويم والاعتماد الأكاديمي
National Center for Academic Accreditation and Evaluation

الثقافة الإسلامية - ٤

١١٤ سلم - ٢



المؤسسة التعليمية: جامعة الملك خالد
الكلية/ الشريعة وأصول الدين القسم: العقيدة والمذاهب المعاصرة

أ. التعريف بالمقرر الدراسي ومعلومات عامة عنه :

١. اسم المقرر الدراسي ورمزه: الثقافة الإسلامية - ٤ ١٤١٤س-٢		
٢. عدد الساعات المعتمدة: ساعتان		
٣. البرنامج (أو البرامج) الذي يقدم ضمنه المقرر الدراسي: متطلب عام للجامعة (في حال وجود مقرر عام في عدة برامج، يبين هذا بدلاً من إعداد قائمة بكل هذه البرامج)		
٤. السنة أو المستوى الدراسي الذي يعطى فيه المقرر الدراسي: حسب خطة الكلية		
٥. المتطلبات السابقة لهذا المقرر (إن وجدت): لا يوجد		
٦. المتطلبات المترتبة مع هذا المقرر (إن وجدت): لا يوجد		
٧. موقع تقديم المقرر، إن لم يكن في المقر الرئيس للمؤسسة التعليمية:		
٨. نمط الدراسة المتبع (اختر كل ما ينطبق):		
أ. قاعات المحاضرات التقليدية	<input type="checkbox"/>	النسبة: %٠
ب. التعليم الإلكتروني	<input checked="" type="checkbox"/>	النسبة: %١٠٠
ج. تعليم مدمج (تقليدي وعن طريق الإنترنت)	<input type="checkbox"/>	النسبة: %٠
د. بالمراسلة	<input type="checkbox"/>	النسبة: %٠
هـ. أخرى	<input type="checkbox"/>	النسبة: %٠
تعليقات:		

ب. الأهداف :

١- ما هدف المقرر الرئيس ؟ - التبصر بأساليب الغزو الفكري للعالم الإسلامي، وبوسائله. - إلمام الطالب بالتحديات المعاصرة للعالم الإسلامي وبوسائل التعامل. - وقاية الطالب من التيارات والمذاهب الفكرية الهدامة.
٢- اذكر بإيجاز أي خطط - يتم تنفيذها - لتطوير وتحسين المقرر الدراسي . - الاستخدام المتزايد لتقنية المعلومات ، ومراجع الإنترنت . - متابعة التغييرات في المحتوى تبعاً للتطورات ذات الصلة بالمقرر .

ج. وصف المقرر الدراسي .

وصف عام للمقرر: التعريف بالاستعمار ، والعلمانية ، والقومية ، والتنصير، والاستشراق ، والماسونية ، والصهيونية ، و العولمة ، وبيان اهم التحديات التي تواجه العالم الإسلامي : التحدي المعرفي والتقني ، والتحدي الاقتصادي ، والتحدي السياسي ، ووحدة العالم الإسلامي ، والتقدم المعرفي ، والتنمية الاقتصادية.
--

- الموضوعات التي ينبغي تناولها :		
ساعات التدريس	عدد الأسابيع	قائمة الموضوعات
٢	١	١- الاستعمار.
٢	١	٢- العلمانية.
٢	١	٣- القومية.
٢	١	٤- التنصير.
٢	١	٥- الاستشراق.
٢	١	٦- الماسونية.
٢	١	٧- الصهيونية.
٤	٢	٨-٩- العولمة.
٢	١	١٠- التحدي المعرفي والتقني.
٢	١	١١- التحدي الاقتصادي.
٢	١	١٢- التحدي السياسي.
٢	١	١٣- وحدة العالم الإسلامي.
٢	١	١٤- التقدم المعرفي.
٢	١	١٥- التنمية الاقتصادية.
٣٠	١٥	المجموع

١. إجمالي عدد ساعات المقرر وتوزيعها:						
المجموع	أخرى	تطبيق	معامل أو استديو	دروس إضافية	محاضرات	
٢	--	--	--	--	٢	ساعات التدريس الفعلية
٢	--	--	--	--	٢	الساعات المعتمدة

٢. عدد ساعات الدراسة / التعلم الفردي (الإضافي) التي يقوم بها الطالب أسبوعياً:
 يقوم الطالب أسبوعياً بحل الواجبات والمشاركة في المنتديات الخاصة بالمقرر بما يقارب ساعة أسبوعياً

٣. مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات واتساقها مع طرق قياسها واستراتيجيات تدريسها :

جدول مخرجات التعلم للمقرر

م	مخرجات التعلم للمقرر وفقاً لمجالات الإطار الوطني للمؤهلات	استراتيجيات التدريس للمقرر	طرق التقويم
١	المعرفة		
١-١	التعرف على المذاهب الفكرية المعاصرة: (الاستعمار ، والعلمانية ، والقومية ، والتنصير، والاستشراق ، والماسونية ، والصهيونية ،و العولمة).	- المحاضرة. - التعلم التعاوني . - المناقشة والحوار .	- المناقشة -البحوث القصيرة - الاختبارات
٢-١	بيان أهم التحديات التي تواجه العالم الإسلامي : (التحدي المعرفي والتقني ، والتحدي الاقتصادي ، التحدي السياسي ، ووحدة العالم الإسلامي ، والتقدم	- المحاضرة. - التعلم التعاوني . - المناقشة والحوار .	- المناقشة -البحوث القصيرة - الاختبارات

		المعرفي ، والتنمية الاقتصادية).	
٣-١			
٢		المهارات المعرفية	
١-٢	مناقشة المذاهب الهدامة من وجهة نظر شرعية .	- المناقشة والحوار . التعلم التعاوني .	المناقشة والحوار
٢-٢	المقارنة بين المذاهب الفكرية المختلفة .		حل مشكلات فكرية
٣-٢	الدفاع عن الثوابت الإسلامية في مواجهة المذاهب المنحرفة .		دراسة حالة
٣		مهارات العلاقات الشخصية وتحمل المسؤولية	
١-٣	- يتقبل الطالب الآراء الأخرى أثناء المناقشة والحوار	- التدريب على مناقشة الآراء المخالفة.	دراسة حالة
	الإصغاء الجيد والمتفاعل .		المناقشة والحوار
	- المشاركة الإيجابية في العرض والمناقشة .	تطوير مهارات الحوار.	الأعمال الجماعية
	التعبير عن الأفكار بوضوح .	التدريب على مناقشة الآراء المخالفة.	لعب دور
٤		مهارات الاتصال ومهارات تقنية المعلومات والمهارات العديدة	
١-٤	يتواصل الطالب مع زملائه عن طريق البريد الإلكتروني .	- الاستفسارات عن طريق الشبكة.	- رسائل الإيميل والرد على الاستفسارات.
٢-٤	استخدام نظام البلاك بورد بمهارة	المنتديات	تقويم تقارير الطلاب
٥		المهارات النفسية الحركية (إن وجدت)	
١-٥		لا ينطبق	

٤. جدول مهام تقويم الطلبة خلال الفصل الدراسي:			
م	مهام التقويم المطلوبة	الأسبوع المحدد لتسليمه	نسبته من التقويم النهائي
٢	الواجبات والمنتديات	مستمر	١٠%
٣	الاختبار الفصلي	١١	٣٠%
٤	الاختبار النهائي	آخر الفصل	٦٠%

د. الإرشاد الأكاديمي للطلاب ودعمهم :

ترتيبات إتاحة أعضاء هيئة التدريس والهيئة التعليمية للاستشارات والإرشاد الأكاديمي الخاص لكل طالب (مع ذكر مقدار الوقت الذي يتوقع أن يتواجد خلاله أعضاء هيئة التدريس لهذا الغرض في كل أسبوع) :
خمس ساعات مكتبية في الأسبوع يقضيها الأستاذ في مكتبه ومعلنة للطلاب ويقدم خلالها التوجيه والإرشاد اللازم للطلاب .

٥. مصادر التعلم :

أدرج - في قائمة - الكتب المقررة المطلوبة:

بذبح تصيف مقرر دراسي، رمضان ١٤٣٨هـ، الموافق يونيو ٢٠١٧م

<ul style="list-style-type: none"> • المرجع الرئيس : - الموسوعة الميسرة في المذاهب والأديان المعاصرة . • المراجع المساعدة : - نقد القومية العربية الشيخ عبدالعزيز بن باز . - مذاهب فكرية معاصرة . د.محمود محمد مزروعة . - الاستشراق والخلفية الفكرية للصراع الحضاري د/ محمود زقزوق - تهافت العلمانية د/ عماد الدين خليل - الصهيونية الحمراء د/عبدالرحمن الميداني
<p>٢. أدرج - في قائمة - المواد المرجعية الأساسية (المجلات العلمية والتقارير وغيرها):</p> <ul style="list-style-type: none"> - مجلة الجمعية العلمية السعودية لعلوم العقيدة والمذاهب المعاصرة . - مجلة الجمعية العلمية السعودية للثقافة الإسلامية .
<p>٣. أدرج المواد الإلكترونية ومواقع الإنترنت ومواقع التواصل الاجتماعي وغيرها:</p> <ul style="list-style-type: none"> - موقع الجمعية العلمية السعودية لعلوم العقيدة والمذاهب المعاصرة .
<p>٤. أدرج أي مواد تعليمية أخرى مثل البرامج الحاسوبية، البرمجيات، والأسطوانات المدمجة:</p> <ul style="list-style-type: none"> - المكتبة الشاملة .

و. المرافق المطلوبة :

<p>بيّن متطلبات المقرر الدراسي من المرافق بما في ذلك حجم القاعات الدراسية والمختبرات (أي عدد المقاعد داخل القاعات الدراسية والمختبرات، وعدد أجهزة الحاسب الآلي المتاحة، وغيرها):</p>
<p>١. المباني (قاعات المحاضرات، والمختبرات، وقاعات العرض، والمعامل، وغيرها):</p> <ul style="list-style-type: none"> - قاعة دراسية تتسع لعدد (٤٠) طالباً .
<p>٢. مصادر تقنية (أدوات عرض البيانات، واللوحات الذكية، والبرمجيات وغيرها):</p> <p>معامل التعلم الإلكتروني</p>
<p>٣. مصادر أخرى (حددها: مثلاً إذا كان هناك حاجة إلى تجهيزات مخبرية خاصة، فاذكرها، أو أرفق قائمة بها):</p> <p>ربط إلكتروني عندما تكون المحاضرة لشطر الطالبات .</p>

ز. تقويم المقرر الدراسي وإجراءات تطويره :

<p>١. استراتيجيات الحصول على التغذية الراجعة من الطلاب بخصوص فعالية التدريس:</p> <ul style="list-style-type: none"> - استبانات تقييم الطلاب للمقرر . - تحليل نتائج الطلاب من خلال الاختبارات. - لقاءات مع الطلاب .
<p>٢. استراتيجيات أخرى لتقويم عملية التدريس من قبل الأستاذ أو القسم:</p> <ul style="list-style-type: none"> - كتابة التقرير الفصلي للمقرر يتضمن مرنّيات الأستاذ ومقترحاته . - تحليل نتائج الطلاب . - ورش عمل لدراسة مقررات الثقافة في القسم .
<p>٣. إجراءات تطوير التدريس:</p> <p>العمل بتوصيات أستاذ المقرر واللجان ونتائج الدراسات.</p> <p>عقد دورات تدريبية لأعضاء هيئة التدريس في استراتيجيات التدريس وبناء الاختبارات .</p>
<p>٤. إجراءات التحقق من معايير إنجاز الطالب:</p> <ul style="list-style-type: none"> - فحص عينات عشوائية من أعمال الطلاب . - تبادل تصحيح اختبارات الطلاب بين أعضاء القسم ..

٥. صيف إجراءات التخطيط للمراجعة الدورية لمدى فعالية المقرر الدراسي والتخطيط لتطويره:
- تطوير وسائل التعليم والإفادة من التقنيات الحديثة .
 - دورات تطويرية لأعضاء هيئة التدريس .
 - مقارنة المقرر بالمقرر المماثل في الكليات المناظرة في الجامعات الأخرى.
 - تفعيل مقترحات الأساتذة في التقرير الدوري للمقرر .

اسم منسق البرنامج:

رئيس قسم العقيدة

والمذاهب المعاصرة .

التاريخ

التوقيع:



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 019PHYS

Course Name: Principles of Physics-1



Course Specifications

Institution: King Khalid University	Date: 31/01/2018
College/Department : Faculty of Science / Physics Department	

A. Course Identification and General Information

1. Course title and code: Principles of Physics-1 - 019PHYS			
2. Credit hours: 2			
3. Program(s) in which the course is offered. Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 1 / First Year			
6. Pre-requisites for this course (if any): NIL			
7. Co-requisites for this course (if any): NONE			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?
- ✓ To explain physical phenomena based on the general concepts of physics.
 - ✓ To teach general principles of physics in solving problems in motion, work, kinetic energy and potential energy, Fluids and Archimedes', Temperature, Heat, fluid dynamics and thermal physics.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)
- ✓ This course is being regularly revised and developed by conducting meetings with the Head of the Department, Course Coordinator and course teachers

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

This course focuses on the basic measurement units and vectors, motion in one dimension and motion in two dimensions, Newton laws of motion, uniform circular motion, work, kinetic energy and potential energy, Momentum, Collisions, Rotational Motion and Equilibrium, Fluids and Archimedes' Principle, Temperature and Heat, fluid dynamics. An overview of the first, second, and third laws of Thermodynamics.

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
<p>Measurements, units, vectors: Measuring Things, The International System of Units, Changing Units, Length, Time, Mass, Vectors and Scalars, Adding Vectors Geometrically, Components of Vectors, Unit Vectors, Adding Vectors by Components, Vectors and the Laws of Physics, Multiplying Vectors Examples and problems</p>	3	6
<p>Motion in one dimension and motion in two dimensions: Motion, Position and Displacement, Average Velocity and Average Speed, Instantaneous Velocity and Speed, Acceleration, Constant Acceleration: A Special Case, Free-Fall Acceleration, Graphical Integration in Motion Analysis Position and Displacement, Average Velocity and Instantaneous Velocity, Average Acceleration and Instantaneous Acceleration, Projectile Motion, Projectile Motion Analyzed, Uniform Circular Motion, Relative Motion in One Dimension, Relative Motion in Two Dimensions. Examples and problems</p>	3	6
<p>Newton's laws of motion and their applications Newtonian Mechanics, Newton's First Law, Force, Mass, Newton's Second Law, Some Particular Forces, Newton's Third Law, Applying Newton's Laws Examples and problems</p>	2	4
<p>Momentum, work, kinetic energy and potential energy. What Is Energy, Kinetic Energy, Work, Work and Kinetic Energy, Work Done by the Gravitational Force, Work Done by a Spring Force, Work Done by a General Variable Force, Power. Work and Potential Energy, Path Independence of Conservative Forces, Determining Potential Energy Values, Conservation of Mechanical Energy, Reading a Potential Energy Curve, Work Done on a System by an External Force, Conservation of Energy. Examples and problems</p>	3	6
Midterm-1 Exam		

<p>Fluid dynamics: What Is a Fluid? Density and Pressure, Fluids at Rest, Measuring Pressure, Pascal’s Principle, Archimedes’ Principle, Ideal Fluids in Motion, The Equation of Continuity, Bernoulli’s Equation Examples and problems</p>	2	4
Midterm-2 Exam		
<p>Thermodynamics: Temperature, The Zeroth Law of Thermodynamics, Measuring Temperature, The Celsius and Fahrenheit Scales, Thermal Expansion, Temperature and Heat, The Absorption of Heat by Solids and Liquids, A Closer Look at Heat and Work, The First Law of Thermodynamics, Some Special Cases of the First Law of Thermodynamics, Heat Transfer Mechanisms. First, second and third laws of thermodynamics. Examples and problems</p>	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30					30
	Actual						
Credit	Planned	2					2
	Actual						

3. Additional private study/learning hours expected for students per week.

4

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
2.1			✓								
3.1							✓				
4.1										✓	✓

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column. First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). Second, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. Third, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods

1.0	Knowledge		
1.1	Describe concepts in diversified branches of physics	Lectures	Exams, Assignments, Quizzes
2.0	Cognitive Skills		
2.1	Analyze the behavior of idealized systems by applying the basic physical concepts and principles	Lectures	Exams, Assignments, Quizzes
3.0	Interpersonal Skills & Responsibility		
3.1	Communicate analysis of problems in a professional manner.	Group discussions	Exams, Assignments, Quizzes
4.0	Communication, Information Technology, Numerical		
4.1	Illustrate skills in technical writing and oral presentations.	Discussions Demonstrations	Presentations Group report
5.0	Psychomotor		
5.1	NA		

6. Schedule of Assessment Tasks for Students During the Semester			
	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments, quizzes –Theory * * Choose best one from two Quizzes and Assignments	Throughout the semester	10%
2	Midterm-1 Exam - Theory	Week 6 / 7	20%
3	Midterm-2 Exam - Theory	Week 11 / 12	20%
4	Final Exam -Theory	Week 16 / 17	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week) <ul style="list-style-type: none"> • 10 office hours by the faculty in a weekly schedule.
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E Learning Resources

1. List Required Textbooks <ul style="list-style-type: none"> • Fundamentals of Physics Extended, 10th Edition, David Halliday, Robert Resnick, Jearl Walker, ISBN: 978-1-118-23072-5, Aug 2013, WILEY Publication. • University Physics: Models and Applications, William P. Crummett, Arthur B. Western, ISBN-10: 0697111997 ISBN-13: 978-0697111999, William C Brown Pub (January 17, 1994). • Physics, Volume 1 5th Edition, Robert Resnick, David Halliday, Kenneth S. Krane, ISBN-13: 978-0471320579, ISBN-10: 0471320579, Wiley; 5th edition (April 5, 2001).
2. List Essential References Materials (Journals, Reports, etc.) IEEE, ACM.
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc. <ul style="list-style-type: none"> • www.lms.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc. • www.ieee.org and www.acm.org to search latest research in relevant field.
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software. None

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) <ul style="list-style-type: none"> One lecture rooms with 40 seats
2. Technology resources (AV, data show, Smart Board, software, etc.) <ul style="list-style-type: none"> Data Show (Projectors) in lecture room.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) <p>None</p>

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none"> At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department <ul style="list-style-type: none"> Departmental evaluation from students about teacher. Course evaluation report from the course coordinator after the exam.
3. Processes for Improvement of Teaching <ul style="list-style-type: none"> Observations made from the course evaluation report by the course coordinator Head of department observations, suggestions, instructions etc.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"> The course coordinator verify the standards of the student achievements
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. <ul style="list-style-type: none"> The subjects are reviewed periodically by the Subject committee and the head of the department for review and improvement. Subject committee comprising of all theory and lab staff of the course, conduct meetings to review the progress of the course.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



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Education Evaluation Commission

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National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 102MATH

Course Name: Calculus



Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department: College of Science / Department of Mathematics	

A. Course Identification and General Information

1. Course title and code: Calculus 102MATH			
2. Credit hours: 3			
3. Program(s) in which the course is offered. : Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 2 / First Year			
6. Pre-requisites for this course (if any) 101MATH Mathematics-1			
7. Co-requisites for this course (if any) NA			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	100
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="checkbox"/>
Comments:			

B. Objectives

<p>The goal of the course is to:</p> <ul style="list-style-type: none"> To prepare students to solve problems involving derivatives, antiderivatives, definite and indefinite integrals. Compute definite and indefinite integrals of algebraic and trigonometric functions using formulas and substitution, Use the derivative of a function to determine the properties of the graph of the function and use the graph of a function to estimate its derivative, Solve problems in a range of mathematical applications using the derivative or the integral, Apply the Fundamental Theorem of Calculus, Use appropriate modern technology to explore calculus concepts.
<p>2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)</p> <ul style="list-style-type: none"> Moderation sources on learning and using more than one references.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

<p>Course Description:</p> <p>This course is focus on Derivatives: The Derivative of a Function, Powers and polynomials, The slope and the tangent line, Derivative of the sine and cosine, The product and quotient and power rules. Applications of the Derivative: Linear approximation, maximum and minimum problems, second Derivatives minimum vs. maximum. The Chain Rule: Derivatives by the chain rule, implicit differentiation and related rates, inverse functions and their Derivatives, inverses of trigonometric functions. Integrals: The idea of the integral, Anti derivatives, summation vs. integration, indefinite integrals and substitutions, the definite integral, properties of the integral and the average value, the fundamental theorem and its consequences. Techniques of integration: integration by parts, trigonometric integrals, trigonometric substitutions, partial functions, improper integrals. Applications of the integral: Areas and volumes by slices, length of a plane curve, area of surface of revolution.</p>
--

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
Derivatives: The Derivative of a Function, Powers and polynomials, The slope and the tangent line, Derivative of the sine and cosine, The product and quotient and power rules.	2	6
Applications of the Derivative: Linear approximation, maximum and minimum problems, second Derivatives minimum vs. maximum.	2	6
The Chain Rule: Derivatives by the chain rule, implicit differentiation and related rates, inverse functions and their Derivatives, inverses of trigonometric functions.	2	6
Partial derivatives: surface and level curves, partial derivatives.	1	3
Integrals: The idea of the integral, Anti derivatives, summation vs. integration, indefinite integrals and substitutions, the definite integral, properties of the integral and the average value, the fundamental theorem and its consequences.	3	9
Techniques of integration: integration by parts, trigonometric integrals, trigonometric substitutions, partial functions, improper integrals.	2	6
Applications of the integral: Areas and volumes by slices, length of a plane curve, area of surface of revolution.	3	9

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45					45
	Actual						
Credit	Planned	3					3
	Actual						

3. Additional private study/learning hours expected for students per week.	4
--	---

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.
First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Recognize the various types of derivatives and integrals.	Lectures.	Quizzes and Exams
1.2	Understand the operations of derivatives	Lectures	Quizzes and Exams
2.0	Cognitive Skills		
2.1	Compute derivatives of algebraic, trigonometric, and piece-wise defined functions	Solving problems	Homework problems
2.2	Compare between bounded and indefinite integrals.	Discussion groups about the exercises.	and Effective discussion during the lectures
3.0	Interpersonal Skills & Responsibility		
3.1	Work independently and as a part of a team to complete mathematical assignment.	Solving problems in groups.	Home works
4.0	Communication, Information Technology, Numerical		
4.1	Use appropriate modern technology to explore calculus concepts.	The student makes presentation of parts of the subject.	oral discussion of different cases
5.0	Psychomotor		
	NA		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)												
	a1	a2	b1	b2	b3	b4	b5	c1	c2	c3	d1	d2	
1.1	✓												
1.2	✓												
2.1			✓										
2.2			✓										
3.1								✓					
4.1													✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Tutorials	Any time during semester	10%
2	Mid-1	Week 7	20%
3	Mid-2	Week 13	20%
4	Final exam	End of semester	50%
5	Final Exam -Theory	Week 16 / 17	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
10 office hours by faculty in a weekly schedule

E Learning Resources

1. List Required Textbooks
<ul style="list-style-type: none"> • Gilbert strang Calculus , MIT , Wellesley-Cambridge Press,1991.
2. List Essential References Materials (Journals, Reports, etc.)
<ul style="list-style-type: none"> • L.Salas Eindar Hille, Calculus one and several variable,6th edition, John Willy and sons, , 1990.
3. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)
<ul style="list-style-type: none"> • www.lms.kku.edu.sa, http://sdl.edu.sa, http://lib.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc.
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software : None

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) One lecture rooms with 40 seats
2. Computing resources (AV, data show, Smart Board, software, etc.) Data Show (Projectors) in lecture room and lab

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list):
None

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor <ul style="list-style-type: none"> • Departmental evaluation from students about teacher • Course evaluation report from the course coordinator after the exam
3 Processes for Improvement of Teaching <ul style="list-style-type: none"> • Observations made from the course evaluation report by the course coordinator • Head of department observations, suggestions, instructions etc.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"> • The course coordinator verify the standards of the student achievements
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. <ul style="list-style-type: none"> • The subjects are reviewed periodically by the Subject committee and the head of the department for review and improvement. Subject committee comprising of all theory and lab staff of the course, conduct meetings to review the progress of the course.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



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ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 113MATH

Course Name: Linear Algebra



Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department: College of Science / Department of Mathematics	

A. Course Identification and General Information

1. Course title and code: Linear Algebra 113MATH			
2. Credit hours: 3			
3. Program(s) in which the course is offered: Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 3 / Second Year			
6. Pre-requisites for this course (if any) 102MATH Calculus			
7. Co-requisites for this course (if any) NA			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply)			
a. Traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text" value="95"/>
b. Blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input checked="" type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text" value="5"/>
d. Correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. Other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

This course introduces students to:

1. Matrix, matrix operations and linear systems.
2. Cramer's rule, and elimination techniques like Gauss-Jordan elimination.
3. Basic concepts of vector spaces.
4. Determinants and evaluates theorem.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- This course is being regularly revised and developed by conducting meetings with the Head of the Department, Course Coordinator and course teachers.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

The course covers Matrices and Matrix operations, liner systems, determinant function and its properties, Cofactor expansion-Cramer's rule-Inverse of a matrix. The course covers also elementary row operations, Gaussian Elimination, Reduced Row-Echelon form, Gauss-Jordan elimination, Back-Substitution, Homogeneous linear system of equations and vector spaces.

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
Matrices and Matrix operations. Matrix form of a liner system. Transpose and Trace of a matrix	1	3
Properties of matrix operations. Properties of inverses and transpose	1	3
A method for finding the inverse of a matrix. Further results on systems of equations and inevitability.	1	3
Diagonal, triangular and symmetric matrices	1	3
The determinant function - Evaluating determinants by row reduction	1	3
Properties of the determinant function	1	3
Cofactor expansion-Cramer's rule-Inverse of a matrix using its adjoint.	1	3
Introduction to the system of linear equations. Augmented matrices. Elementary row operations	2	6
Gaussian Elimination Reduced Row-Echelon form. Gauss-Jordan elimination. Back-Substitution, Homogeneous linear system of equations.	3	9
Vector space, Linear dependent and linear independent, Eigen values and Eigen vectors	2	6
Basis and Dimensional of vector space	1	3

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45					45
	Actual						
Credit	Planned	3					3
	Actual						

3. Additional private study/learning hours expected for students per week.	4
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.
First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define the fundamental of matrix operations, including inverses and determinants.	Lectures	Examinations
1.2	Define the concepts of vector space and subspace.	Lectures	Quizzes and Exams
1.3	Describe inner products and associated norms	Lectures	Quizzes and Exams
2.0	Cognitive Skills		
2.1	Calculate systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion.	Lectures	Examinations
2.2	Explain the linear independence, span, and basis.	Group Discussion	Assignment
2.3	Evaluate eigenvalues and eigenvectors problems of a given matrix.	Lectures	Assignment
2.4	Apply principles of matrix algebra to linear transformations.	Lectures	Examination
3.0	Interpersonal Skills & Responsibility		
3.1	Work independently and as a part of a team to complete mathematical assignment.	Group Discussion	Assignment
4.0	Communication, Information Technology, Numerical		
4.1	Use appropriate modern technology to explore Linear Algebra concepts.	Presentation	Oral Examination
5.0	Psychomotor		
	NA		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)											
	a1	a2	b1	b2	b3	b4	b5	c1	c2	c3	d1	d2
1.1	✓											
1.2	✓											
1.3	✓											

2.1			✓										
2.2			✓										
2.3			✓										
2.4			✓										
3.1								✓					
4.1													✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Tutorials	Any time during semester	10%
2	Mid-1	Week 7	20%
3	Mid-2	Week 13	20%
4	Final exam	End of semester	50%
5	Final Exam -Theory	Week 16 / 17	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
10 office hours by faculty member in a weekly schedule

E Learning Resources

5. List Required Textbooks
<ul style="list-style-type: none"> Howard Anton, Elementary Linear Algebra, 11th Edition, John Wiley & Sons, 2013. ISBN: 978-1-118-43441-3
6. List Essential References Materials (Journals, Reports, etc.)
<ul style="list-style-type: none"> Theodore Shifrin and Malcolm R. Adams, Linear Algebra, A Geometric Approach, 2nd edition, W. H. Freeman, 2011. ISBN-13: 978-1429215213, ISBN-10: 1429215216.
7. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.)
<ul style="list-style-type: none"> www.lms.kku.edu.sa, http://sdl.edu.sa, http://lib.kku.edu.sa to access lecture notes, text book, lab manual, announcements related to the course etc. www.ieee.org and www.acm.org to search latest research in relevant field.
8. Other learning material such as computer-based programs/CD, professional standards or regulations and software: None

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) One lecture room with 40 seats
2. Computing resources (AV, data show, Smart Board, software, etc.) Data Show (Projectors) in lecture room and lab
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list): None

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none">At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor <ul style="list-style-type: none">Departmental evaluation from students about teacherCourse evaluation report from the course coordinator after the exam
3 Processes for Improvement of Teaching <ul style="list-style-type: none">Observations made from the course evaluation report by the course coordinatorHead of department observations, suggestions, instructions etc.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none">The course coordinator verify the standards of the student achievements
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. <ul style="list-style-type: none">The subjects are reviewed periodically by the Subject committee and the head of the department for review and improvement. Subject committee comprising of all theory and lab staff of the course, conduct meetings to review the progress of the course.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



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ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 101MATH
Course name: Mathematics 1



Course Specifications

Institution: King Khalid University, Abha	Date: 01/02/2018
College/Department : College of Science / Department of Mathematics	

A. Course Identification and General Information

1. Course title and code: Mathematics 1 101MATH			
2. Credit hours: 03			
3. Program(s) in which the course is offered. Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course Mohammad Hazzazi (coordinator) Fouad Al mahdi , Ahmad Alwan, Khalid Jodah			
5. Level/year at which this course is offered: 1st Level / 1st Year			
6. Pre-requisites for this course (if any): NA			
7. Co-requisites for this course (if any): NA			
8. Location if not on main campus: AlMahala			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?
 - 1) Highlight the importance of mathematics in overall curriculum and variety of disciplines.
 - 2) Build a strong mathematical background for future study in computer science and engineering.
 - 3) Help students to develop their mathematical skills by using the proper logical thinking.
 - 4) Train students to know methods and solution strategies.
 - 5) Give a basic background in analysis.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)
 - 1) Encouraging students to read by themselves from different sources.
 - 2) Assigning students to do a lot of homework
 - 3) Using E-learning.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

This course is intended to give students a background of mathematics needed to build the mathematical maturity and sophistication needed by science and IT students in particular. This course begins with the study of real numbers, Equations and Inequalities, functions, the basic tools of calculus, their algebra and families of functions, the basic concept and the limit of a function, and the continuity of a function. Then it introduces some special functions as the trigonometric, logarithmic, exponential, and hyperbolic functions. Finally, the course covers polar coordinate and complex numbers.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Introduction: Review on roots, fractures, analysis and numbers, Intervals on R, definition of the absolute value and its properties, Equations and Inequalities.	2	6
Functions: Domain and range and function operations, Inverse function, Composite function, Even and odd Functions, Periodic functions, Basic functions and how to sketch them, exponential and logarithms functions, Trigonometric functions, and Hyperbolic Functions.	4	12
Limits: Definition of limit of a function, Right and left limit, Properties of limits, Limit of trigonometric functions, Limits containing infinity, L'Hospital's Rule.	4	12
Continuity: Continuity of function at point, Properties of the continuity, Discontinuity. Right and left side continuity.	2	6
Complex numbers: Cartesian complex numbers, The Argand diagram, arithmetic operations for complex numbers, complex plane, Euler formula, Complex equations, The polar form of a complex number, Applications of complex numbers, De Moivre formula for multiplication and division.	2	6
General Review	1	3

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45				14 hours of grading homework and quizzes for all students	45
	Actual						
Credit	Planned	3					3
	Actual						

3. Additional private study/learning hours expected for students per week. 5 hours per week to review and do homework and for self-study.	4
--	---

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.
First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Cod e #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Outline the principles of calculus and its applications.	Lectures, group work	Tests, Quizzes and Homework
1.2	Describe function means, types and their behavior, and some basic theorems.		
2.0	Cognitive Skills		
2.1	Solve mathematical problems related to limits, linear, quadratic, exponential, logarithmic, and trigonometric functions.	Lectures, Homework, group discussion, brain storming	Grading Homework, Quizzes, two midterms and Final test
2.2	Describe some basic mathematic theorems.		
3.0	Interpersonal Skills & Responsibility		
3.1	Show ability to discuss scientific issues through open questions	- Group discussion - Collaborative work	- Participation during lectures - Through the tasks to be solved Collaboratively -Doing Homework in exact time
3.2	Demonstrate ability to self-reliance on solving problems		

4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate ability to do calculations correctly	Homework and Using blackboard to deliver assignments and tests and discussion	Discussion and Quizzes and presentation
4.2	Demonstrate ability to use E-learning tools in education and to communicate orally		
5.0	Psychomotor		
5.1	N/A		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
1.2	✓										
2.1			✓								
2.2			✓								
3.1							✓				
3.2									✓		
4.1										✓	
4.2											✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Homework	Weekly Or Biweekly	10%
2	Quizzes		
3	First Mid Term	After Week 5	20%
4	Second Mid Term	After Week 11	20%
5	Final Exam	After Week 14	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- 1) At least ten office hours a week
- 2) At least 3 hours of grading a week
- 3) Discussion board forum in Blackboard
- 4) E-mail

E Learning Resources

1. List Required Textbooks

- An Introduction to Analysis: Differential Calculus: Part I, by Ram Krishna Ghosh, Kantish Chandra Maity, 2011.
- Introduction to calculus - Part I - Mohammed Adel Sudan, Salman.

2. List Essential References Materials (Journals, Reports, etc.)

Calculus fifth edition by Earl William Swokowski

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

<http://www.mhhe.com/math/calc/smithminton/>

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

[King Khalid University site.](#)

[Blackboard.](#)

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

Lecture halls can accommodate up to 60 students equipped with whiteboards, Tables and Chairs

2. Technology resources (AV, data show, Smart Board, software, etc.)

1. Computer and printer for the lecturer

2. E-learning Centre for students

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

Questionnaire is given to students about their instructors

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

3. Processes for Improvement of Teaching

Workshops organized by E-Learning Deanship at the university

Continuous search about new reference

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Standardized tests for all sections graded by a group of our faculty members.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

Our department reviews the course characterization and recommended book every two years.

Name of Course Instructor _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 339STAT

Course Name: Probability and Statistics

Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department : College of Computer Science / Computer Engineering	

A. Course Identification and General Information

1. Course title and code: Probability and Statistics 339STAT			
2. Credit hours: 3			
3. Program(s) in which the course is offered. Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course:			
5. Level/year at which this course is offered: Level 6 / Year 3			
6. Pre-requisites for this course (if any): 133CCE Discrete Structures			
7. Co-requisites for this course (if any): NA			
8. Location if not on main campus: NA			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input style="width: 50px;" type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?

This course will introduce students to:

1. Ordered array (ungrouped data), the frequency distribution (grouped data), relative frequency table, cumulative frequency tables, and graphical presentation of the data (Frequency Histogram, Frequency Polygon and Frequency Curve).
2. Different types of means, the median, the mode, and quartiles.
3. Person's correlation coefficient and Spearman's rank correlation coefficient.
4. Random experiment, Sample space, Events and operations on the events.
5. Axioms of probability and probability. Assignment of probability.
6. Random variables, mean, variance and the standard deviation of the random variables.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

The use of IT and web based material is not much needed for this course; however this would be a plus for this course. This is a basic course and the new research does not affect the contents of this course, but we should be aware of the new research. Constant revision and updating of the course contents is recommended.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

The course provides the student with the ordered array (ungrouped data), the frequency distribution (grouped data), relative frequency table, cumulative frequency tables, and graphical presentation of the data (Frequency Histogram, Frequency Polygon and Frequency Curve). Also, the student can find the arithmetic mean, the coding method for computing mean, the Weighted mean, the median, the mode, the geometric mean, the harmonic mean, quartiles, deciles and percentiles, Person's correlation coefficient. Spearman's rank correlation coefficient. About the probability, the student must recognize Random experiment. Sample space. Events. Operations on the events. Axioms of probability. Assignment of probability. Random variables and probability distribution. The mean, the variance and the standard deviation of the random variables.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Data presentation: Frequency distribution, frequency histogram with class intervals.	3	9
Measures of central tendency: Mode, Median, Mean, Measures of Central Tendency	3	9
Correlation Coefficient and Regression Line: Correlation coefficient, Spearman rank correlation, The regression equation, Slope of the Least Squares Line.	3	9
Principles of Probability theory: Definitions, Rules, Distribution, Parameter of distribution, Types of distribution.	4	12
Statistical Inference: Statistical summaries. Sampling distributions. Estimation by method of moments; maximum likelihood. Properties of estimators. Introduction to hypothesis testing, confidence sets.	2	6

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45					42
	Actual						
Credit	Planned	3					3
	Actual						

3. Additional private study/learning hours expected for students per week.

4

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Define Mean, Variance and random variables	Lecture	Exams Long and short essay
1.2	List random distributions	Lecture	Exams Long and short essay
2.0	Cognitive Skills		
2.1	Calculate statistical parameters of some real data	Lecture	Discussions, Exams
2.2	Estimate problems related to random variables	Lecture	Discussions, Exams
2.3	Analyze the distribution of some data	Lecture	Discussions, Exams
3.0	Interpersonal Skills & Responsibility		
3.1	Show ethical and responsible behavior when collecting data from different sources	Lecture	Discussions, Assignments
4.0	Communication, Information Technology, Numerical		
4.1	Demonstrate an ability to use information technology for analyzing data	Lecture	Discussions, Assignments
5.0	Psychomotor		
	Nil		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
1.2	✓										
2.1			✓								
2.2				✓							
2.3					✓						
3.1								✓			
4.1										✓	

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignments, quizzes Theory	Throughout the semester	5%
2	Midterm Exams Theory	Week 7 & 12	20%
3	Lab activities	Week 13	12%
4	Home Work Lab	Week 15	3%
5	Final Exam – Lab	Week 16	10%
6	Final Exam Theory	Week 17	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)

- Office hours (8-10 hours per week).
- Contacts through university's E-learning system
- E-mail messages

E Learning Resources

1. List Required Textbooks

1. David J. Morin, "Probability: For the Enthusiastic Beginner "1st Edition, Create Space Independent Publishing Platform, 2016, ISBN-13: 978-1523318674,
2. Allan G. Bluman "Elementary Statistics: A Step by Step Approach", 7th Edition, McGraw-Hill, 2008, ISBN-13: 978-0073534978, ISBN-10: 0073534978.
3. A.D. Ball, G.D. Buckwell, "Work Out Statistics A-Level (Macmillan Work Out)", , Palgrave Macmillan, 2001. ISBN-10: 0333643860, ISBN-13: 978-0333643860

2. List Essential References Materials (Journals, Reports, etc.)

- Dr Adnan and Dr Mahmoud Hindi (Arabic)"Probability and Statistics "

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.) Lecture room equipped with 25 seats, computer and projecting unit with audio system
2. Technology resources (AV, data show, Smart Board, software, etc.) Data show
3. Other resources: none

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching <ul style="list-style-type: none"> Feedback questionnaire distributed to the students in the middle of the semester and at the end of the semester. Students- faculty meeting/discussions
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department <ul style="list-style-type: none"> A committee and the teacher review the study plan and evaluations
3. Processes for Improvement of Teaching <ul style="list-style-type: none"> Use students' evaluation of the course, and the course reports written by the teachers. Use students' results/performance. A committee including people who have taught this course, can study the results and can make suggestions.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution) <ul style="list-style-type: none"> The course folder should be kept and it should be used by the teacher and a committee. If possible, data of this folder should be compared with similar folders/data from other universities.
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. <ul style="list-style-type: none"> Course description, course folder, course evaluations and students results should be reviewed periodically by a committee of people who are very well familiar with this course and the course description, contents, methods of teaching, and method of assessment should be modified accordingly.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

COURSE SPECIFICATION (CS)

**Course Title: Intensive English Course
Course Code: Eng. 011**



Institution: King Khalid University	Date: 07.01. 2019
College/Department: Faculty of Languages and Translation/ English Language Center	

A. Course Identification and General Information

1. Course title and code: Intensive English Course, Eng-011	
2. Credit hours: 6	Contact Hours: 12 Hours Per Week
3. Program(s) in which the course is offered.	
<ul style="list-style-type: none"> • College of Business • College of Computer Science • College of Engineering • College of Humanities • College of Sciences 	
4. Name of faculty member responsible for the course:	
5. Level/year at which this course is offered: Level 1	
6. Pre-requisites for this course (if any):	
7. Co-requisites for this course (if any):	
9. Location if not on main campus: All Campuses of the University	
10. Mode of Instruction (mark all that apply)	
a. traditional classroom	<input checked="" type="checkbox"/> What percentage? <input style="width: 50px;" type="text" value="85%"/>
b. blended (traditional and online)	<input checked="" type="checkbox"/> What percentage? <input style="width: 50px;" type="text" value="*15%"/>
c. supportive e-learning	<input type="checkbox"/> What percentage? <input style="width: 50px;" type="text"/>
d. correspondence	<input type="checkbox"/> What percentage? <input style="width: 50px;" type="text"/>
f. other	<input type="checkbox"/> What percentage? <input style="width: 50px;" type="text"/>
*Comments: Asynchronous method will be adopted. 15 % marks will be allocated for online activities.	

Objectives:

1. What is the main objective for this course?

By the end of the course, students will be able to:

- Develop English language skills- Listening, Speaking, Reading & Writing.
- Recognize familiar words, very basic phrases as well as the highest frequency vocabulary related to personal and family information, shopping, local area, employment).
- Identify familiar names, words and very simple sentences, for example on notices and posters or in catalogues.
- Distinguish specific, predictable information in simple everyday material such as advertisements, prospectuses, menus and timetables, short simple and personal letters.
- Discuss familiar topics, personal details and routine tasks.
- Use simple phrases and sentences to describe places, family, people, living conditions and educational background.
- Write a short, simple postcards, notes, messages, fill in forms with personal details, and compose short paragraphs and simple personal letter.
- Use reading strategies (Previewing/Skimming/ Scanning) in simple everyday material.
- Express opinions and ideas in everyday situations.
- Identify basic grammar and construct very simple sentences.

2. Briefly describe any plans for developing and improving the course that are being implemented.

- Blackboard should be used for engaging students with vocabulary and course contents. It will be used for practicing the language skills outside the classroom in form of homework, assignments, quizzes and discussions.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description: Intensive English Language course is designed to enhance and enrich English language proficiency among learners at the **A1 and A 2 Levels** of the Common European Framework of Reference for Languages (CEFR). It is also intended to develop the academic skills and language that will lead the learners to success in their studies. The course follows the integrated approach.

1. Topics to be covered		
Listening and Speaking	No. of Weeks	Contact hours
<p>Book1: Unit 1 - PEOPLE Listening 1: Introductions (Communication studies) Listening 2: Presentations about famous people (Celebrity studies)</p> <p>Vocabulary: Family, Jobs, Countries and nationalities</p> <p>Grammar: Personal pronouns, Possessive adjectives, The verb be</p> <p>Speaking: Introducing and starting a talk; Saying words and sentences in syllables; Tell your group about two famous people from your country.</p>	1	4
<p>Book1: Unit 2 - SEASONS Listening 1: A talk about three different places (Landscape architecture) Listening 2: Presentations about landscapes (Meteorology)</p> <p>Vocabulary: Months and seasons, Weather, Colors</p> <p>Grammar: There is and There are, Adjectives</p> <p>Speaking: Describing photographs; Word stress; Describe photographs of a landscape.</p>	1	4
<p>Book1: Unit 3- LIFESTYLE Listening 1: Three conversations about different lifestyles (Sociology) Listening 2: An interview (Anthropology)</p> <p>Vocabulary: Days of the week; Time expressions; Collocations for lifestyle (e.g. download apps, go to the gym, have dinner with friends)</p> <p>Grammar: The present simple</p> <p>Speaking: Asking and answering questions; Intonation in questions; Interview students for a survey</p>	1	4
<p>Book1: Unit 4 - PLACES Listening 1: Part of a geography seminar (Urban geography) Listening 2: A guided tour (Tourism geography)</p>	1	4

<p>Vocabulary: Vocabulary for places (e.g. bank, bridge, library, mosque); Prepositions of place</p> <p>Grammar: The imperative</p> <p>Speaking: Asking for and giving directions; Pronunciation of phrases</p>		
<p>Book1: Unit 5 - SPORT</p> <p>Listening 1: A university lecture about sport (Sports science)</p> <p>Listening 2: A student presentation about sport and exercise (Health sciences)</p> <p>Vocabulary: Vocabulary for sport; Sports collocations (e.g. play tennis, go swimming, do karate)</p> <p>Grammar: Comparative adjectives</p> <p>Speaking: Making comparisons and introducing a talk; Weak Vowel Sounds; Compare different kinds of sport and exercise.</p>	1	4
First Progress Test (FPT)		
<p>Book1: Unit 6 -JOBS</p> <p>Listening 1: A formal conversation asking for advice (Careers guidance)</p> <p>Listening 2: A job interview (Human resource management)</p> <p>Vocabulary: Vocabulary for jobs: suffixes; Adjectives for people (e.g. good-looking, kind, polite, slim); Collocations for jobs (e.g. build houses, do experiments, serve food)</p> <p>Grammar: have/has to</p> <p>Speaking: Asking for and giving reasons; Pronouncing consonants in have to, have, has to, Has (e.g. /f/,/v/, /z/,/s/); Choose a person for a job</p>	1	4
<p>Book1: Unit 7- HOME AND BUILDINGS</p> <p>Listening 1: A radio interview (Demography)</p> <p>Listening 2: A discussion: ideas for a new building (Architecture)</p> <p>Vocabulary: Vocabulary for rooms; Adjectives for furniture (e.g. comfortable, wooden, glass)</p> <p>Grammar: should</p>	1	4

<p>Speaking: Asking for and giving opinions; Agreeing and disagreeing; Discuss ideas for a new building</p>		
<p>Book1: Unit 8 - FOOD AND CULTURE Listening 1: A university lecture about food in cities (Food studies) Listening 2: A survey (Gastronomy) Vocabulary: Vocabulary for food Grammar: Countable and uncountable nouns (with Some, any, much, many) Speaking: Introducing a report; Talking about the results; Sentence stress: emphasis; Report the results of a survey</p>	1	4
<p>Book1: Unit 9- THE ANIMAL KINGDOM Listening 1: A talk about orangutans (Animal behavior) Listening 2: A student talk about an animal from their Country (Zoology) Vocabulary: Vocabulary for animals Grammar: Definitions (e.g. a kind of, that means, is the name for) Speaking: Introducing a topic; Using questions in a talk; Pronunciation for speaking: Pauses; Describe an animal.</p>	1	4
<p>Book1: Unit 10 - TRANSPORT Listening 1: A discussion about Transport for London (Transport and logistics) Listening 2: A debate about a transport problem (Urban planning) Vocabulary: Vocabulary for transport Grammar: The past simple Speaking: Describing a topic; Describing a problem Describing a solution; Describing results; Pronunciation for speaking-Past simple endings: /t/, /d/, /ɪd/; Describe a solution to a transport problem.</p>	1	4
<p>Book 2: Unit 1: PLACES Listening 1: A podcast about homes around the world (Geography) Listening 2: A lecture about satellite navigation systems (Travel management)</p>	1	4

<p>Vocabulary: Vocabulary for places we live and work (e.g. pedestrian area, bus stop, cottage)</p> <p>Grammar: Review of the Past simple</p> <p>Speaking: Organize information for a presentation; Create a presentation for your classmates about an interesting place. Give factual information about the place you choose.</p>		
Second Progress Test (SPT)		
<p>Book 2: Unit 2: FESTIVALS AND CELEBRATIONS</p> <p>Listening 1: Three interviews about festivals in different countries (Social sciences)</p> <p>Listening 2: A talk about celebrations and food (Cultural studies)</p> <p>Vocabulary: Collocations (e.g. go to a concert, take a photograph, have a nice time)</p> <p>Grammar: Review of Present tense question forms</p> <p>Speaking: Make suggestions; Discuss a new festival and make suggestions for events. Give a poster presentation about your festival to the rest of your group.</p>	1	4
<p>Book 2: Unit 3: SCHOOL AND EDUCATION</p> <p>Listening 1: A guided tour of a university campus (University orientation)</p> <p>Listening 2: A discussion about learning with technology (Educational studies)</p> <p>Vocabulary: Collocations about learning (e.g. study Geography, learn Biology, teach French, revise History); Review of prepositional phrases</p> <p>Grammar: Basic verb patterns</p> <p>Speaking: Offer opinions, agree and disagree; Phrases for giving opinions in a debate; Hold a debate about whether students should choose how they learn. Explain if you agree or disagree with your</p>	1	4

classmates during the debate.		
<p>Book 2: Unit 4: THE INTERNET AND TECHNOLOGY</p> <p>Listening 1: A student radio programme about robots (Sociology)</p> <p>Listening 2: A news report about how computers affect our memory (Psychology)</p> <p>Vocabulary: Technology (e.g. go online, wifi, the cloud)</p> <p>Grammar: can/be able to</p> <p>Speaking: Describe additional and contrasting Information; Linking words of contrast to organize a report; Present a report about technology, providing some information about a device. Look at advantages and disadvantages and details to support main ideas.</p>	1	4
<p>Book 2: Unit 5: LANGUAGE AND COMMUNICATION</p> <p>Listening 1: Different genres of listening (English language and linguistics)</p> <p>Listening 2: Presentation about sign language (Sign language and deaf studies)</p> <p>Vocabulary: Communication (e.g. pickup, learn, wave)</p> <p>Grammar: Imperative clauses; Verb patterns</p> <p>Speaking: Sequence instructions; Sequencing words to organize instructions; Plan and give a set of instructions</p>	1	4
Revision/ Final Examination		
Revision/ Final Examination		
Revision/ Final Examination		
Total contact hours per semester for Listening and Speaking Skills: 60		

Reading and Writing	No. of Weeks	Contact hours
<p>Book 1: Unit 1: PEOPLE</p> <p>Reading 1: Friendfile (Communication studies)</p> <p>Reading 2: A very tall man! (Anthropology)</p> <p>Vocabulary: Family vocabulary (e.g. grandfather, grandmother, father, mother)</p> <p>Grammar: nouns and verbs; Singular and plural nouns; Grammar for writing: The verb <i>be</i>; Personal pronouns; Possessive determiners</p> <p>Writing: Academic writing skills: • Punctuation; Write descriptive sentences; Write about somebody in your family.</p>	1	8
<p>Book 1: Unit 2: SEASONS</p> <p>Reading 1: The coldest city in the world (Geography)</p> <p>Reading 2: Cuba weather (Meteorology)</p> <p>Vocabulary: Adjectives to describe the weather (e.g. warm, hot, cold, sunny)</p> <p>Grammar: Adjectives and nouns; noun phrases; Grammar for writing: Subject and verb; Prepositions; Prepositional phrases</p> <p>Writing: Academic writing skills: Punctuation- capital letters; Write facts; Write facts about the weather in your city.</p>	1	8
<p>Book 1: Unit 3: LIFESTYLE</p> <p>Reading 1: can you imagine your life with no mobile phones or TV? (Anthropology)</p> <p>Reading 2: Timetable (Management)</p> <p>Vocabulary: Vocabulary for study (e.g. Maths, History, Chemistry, Business)</p> <p>Grammar: Collocations; Grammar for writing: Subject – verb – object; Present simple; Time expressions</p> <p>Writing: Academic writing skills: Spelling third person singular forms; Write facts; Write facts about the lifestyle of a</p>	1	8

student in your class		
<p>Book 1: Unit 4: PLACES</p> <p>Reading 1: A world history of maps (History)</p> <p>Reading 2: The Maldives: an overview (Geography)</p> <p>Vocabulary: Vocabulary for places in a city (e.g. museum, library, factory, monument); Vocabulary for places in a country (e.g. hill, farm, field, forest)</p> <p>Grammar: Noun phrases with of; Grammar for writing: there is / there are; determiners: articles</p> <p>Writing: Academic writing skills: Spelling and punctuation: capital letters; Write facts; Write facts about your country</p>	1	8
<p>Book 1: Unit 5: SPORT</p> <p>Reading 1: The world's top five favorite sports (Sports studies)</p> <p>Reading 2: Sport in brazil (cultural studies)</p> <p>Vocabulary: Adjectives to describe sports (e.g. hard, exciting, expensive, difficult)</p> <p>Grammar: Sports collocations; Prepositions; Adjectives Grammar for writing: Subject – verb – adjective; Subject – verb – adverb</p> <p>Writing: Academic writing skills: Commas; Write facts; Write facts about a popular sport in your country.</p>	1	8
First Progress Test (FPT)		
<p>Book 1: Unit 6: JOBS</p> <p>Reading 1: Find_my_job.com (business and management)</p> <p>Reading 2: Job emails (business and management)</p> <p>Vocabulary: Vocabulary for jobs (e.g. vet, fireman, manages people, prepares food)</p> <p>Grammar: Adjective phrases; Grammar for writing: must and have to; Joining sentence with <i>and</i></p> <p>Writing: Academic writing skills: Contractions; Write</p>	1	8

sentences; Write a description of a job for a friend.		
<p>Book 1: Unit 7: HOMES AND BUILDINGS</p> <p>Reading 1: Architect’s world expert interview (Architecture) Reading 2: Skyscrapers (Architecture)</p> <p>Vocabulary: Vocabulary for buildings (e.g. cinema, library, hotel, train station); Vocabulary for parts of buildings (e.g. car park, stairs, exit, garden); Adjectives to describe buildings (e.g. big, modern, old, ugly)</p> <p>Grammar: Grammar for writing: Comparing quantities; Comparative adjectives; Joining sentences with <i>but</i></p> <p>Writing: Academic writing skills: Spelling: double consonants; Write a comparison; Write a comparison of two buildings</p>	1	8
<p>Book 1: Unit 8: FOOD AND CULTURE</p> <p>Reading 1: Tea: A world history (History) Reading 2: Ten of the best by cuisine (Hospitality management)</p> <p>Vocabulary: Vocabulary for food and drink (e.g. potatoes, coconut, yoghurt, water)</p> <p>Grammar: Countable and uncountable nouns; Grammar for writing: Subject–verb agreement; determiners: <i>a, an</i> and <i>some</i></p> <p>Writing: Academic writing skills: Spelling; Write descriptive sentences; Write about food in your country for a student website</p>	1	8
<p>Book 1: Unit 9: THE ANIMAL KINGDOM</p> <p>Reading 1: Variety in the animal kingdom (Zoology) Reading 2: The world’s fastest hunters (Zoology)</p> <p>Vocabulary: Vocabulary to describe facts about animals (e.g. long, high, weighs, habitat); Vocabulary for animals (e.g. harmless, endangered, deadliest, nocturnal)</p> <p>Grammar: Can and Cannot; Grammar for writing:</p>	1	8

<p>Superlative adjectives</p> <p>Writing: Academic writing skills: Spelling; Write a descriptive paragraph; Write a paragraph about an animal</p>		
<p>Book 1: Unit 10: TRANSPORTATION</p> <p>Reading 1: Transport survey (Transport and logistics) Reading 2: Transport in Bangkok: report (Urban planning)</p> <p>Vocabulary: Transport collocations (e.g. take the bus, travel by car)</p> <p>Grammar: Quantifiers; Grammar for writing: Subject – verb – object; Linking sentences with pronouns</p> <p>Writing: Academic writing skills: error correction; Write a paragraph; Write a paragraph about transport in your city</p>	1	8
<p>Book 2: Unit 1: PLACES</p> <p>Reading 1: Rise of the megacities (Geography) Reading 2: Homestay holidays (Travel and Tourism)</p> <p>Vocabulary: Vocabulary to describe places (e.g. exciting, interesting, polluted, noisy, boring)</p> <p>Grammar: Nouns, verbs and adjectives; Grammar for writing: Sentence structure 1: subject + verb; <i>There is/There are</i></p> <p>Writing: Academic writing skills: capital letters and full stops; Write descriptive sentences; describe the place where you live. Write about the positives and negatives.</p>	1	8
Second Progress Test (SPT)		
<p>Book 2: Unit 2: FESTIVALS AND CELEBRATION</p> <p>Reading 1: Celebrate! (Sociology) Reading 2: Muscat Festival (Cultural Studies)</p> <p>Vocabulary: Vocabulary to describe festivals (e.g. lucky, culture, traditional, history, highlights)</p> <p>Grammar: Prepositions of time and place: on, in, at; Adverbs of frequency; Grammar for writing 2: Sentence structure 2: subject and verb order; Prepositional phrases</p>	1	8

<p>Writing: Academic writing skills: Paragraph organization 1: organizing sentences into a paragraph; Write a descriptive paragraph; describe a festival or special event</p>		
<p>Book 2: Unit 3: SCHOOLS AND EDUCATION</p> <p>Reading 1: La Masia: the best footballers in the world (education) Reading 2: My Princeford experience (education)</p> <p>Vocabulary: Vocabulary to describe education (e.g. a principal, a lecturer, a lab, a graduate, an office)</p> <p>Grammar: Education nouns; Plural nouns; Grammar for writing: Subject pronouns; <i>because</i> and <i>so</i></p> <p>Writing: Academic writing skills: Paragraph organization 2: topic and supporting sentences; Write a descriptive paragraph. Writing task; describe your education</p>	1	8
<p>Book 2: Unit 4: THE INTERNET AND TECHNOLOGY</p> <p>Reading 1: Someone's always watching you online ... (Information Technology) Reading 2: Video games (Information Technology)</p> <p>Vocabulary: Vocabulary to describe the internet and technology (e.g. an online game, a computer program, a chat room, internet banking, a smartphone)</p> <p>Grammar: Compound nouns; Giving opinions; Grammar for writing: <i>and</i>, <i>also</i> and <i>too</i>; <i>but</i> and <i>however</i></p> <p>Writing: Academic writing skills: Topic sentences; Write a one-sided opinion paragraph; The internet has made our lives better. Do you agree or disagree?</p>	1	8
<p>Book 2: Unit 5: LANGUAGE AND COMMUNICATION</p> <p>Reading 1: Writing systems (Linguistics) Reading 2: Language change: a study guide (Linguistics)</p> <p>Vocabulary: Vocabulary to describe language and</p>	1	8

<p>communication (e.g. sign, symbol, information, money, word)</p> <p>Grammar: Countable and uncountable nouns; Articles: <i>a, an</i> or <i>no</i> article; Grammar for writing: Quantifiers: <i>some, many, a lot of, a few, a little</i></p> <p>Writing: Academic writing skills: Supporting sentences; Giving examples: <i>like, such as</i> and <i>for example</i>; Write a descriptive paragraph; how is your language different from 50 years ago? Describe the way that people speak and write your language has changed.</p>		
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Revision/ Final Examination

Revision/ Final Examination

Revision/ Final Examination

Total contact hours per semester for Reading and Writing Skills : 120

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	180					*180
Credit	6					6

* Total hours per semester for the whole course

3. Additional private study/learning hours expected for students per week.

5

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy.

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
	<ul style="list-style-type: none"> Define familiar everyday and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Identify personal details such as where they live, people they know and things they have. Recognize simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters State in simple terms aspects of their background, immediate environment and matters in areas of immediate need. 	<ul style="list-style-type: none"> Using scaffolding approach; Applying PPP (Presentation, Practice and Product) method; Lectures in classroom; Demonstrations; Buzz Group Activity; Role Play Activity; In – class discussion (student participation); Activity-based teaching; 	<ul style="list-style-type: none"> Homework Assignments; Quizzes; Class Tests; Online (Blackboard) assignments, blogs, discussion forums; e-quizzes; First/ Second Progress Tests; Final examination.
2.0	Cognitive Skills		
	<ul style="list-style-type: none"> Use familiar everyday and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Express themselves and describe personal details 	<ul style="list-style-type: none"> Using scaffolding approach; Applying PPP (Presentation, Practice and Product) method; Lectures in classroom; Demonstrations; Buzz Group Activity; Role Play Activity; In – class discussion (student participation); 	<ul style="list-style-type: none"> Homework Assignments; Quizzes; Class Tests; Online (Blackboard) assignments, blogs, discussion forums; e-quizzes; Speaking & Writing Projects;



	<p>such as where they live, people they know and things they have.</p> <ul style="list-style-type: none"> Communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters Describe in simple terms aspects of their background, immediate environment and matters in areas of immediate need. 	<ul style="list-style-type: none"> Activity-based teaching; Free, Guided, and Controlled Writing Strategies. 	<ul style="list-style-type: none"> First/ Second Progress Tests; Final examination.
3.0	Interpersonal Skills & Responsibility		
	<ul style="list-style-type: none"> Develop language skills: listening, speaking, reading and writing. Use reading strategies (Previewing/ Skimming/ Scanning) in simple everyday material. Interpret listening and reading texts. Offer group presentations and assignments. Ask open-ended questions. Use tasks and activities that foster critical thinking. Compose grammatically correct paragraphs. 	<ul style="list-style-type: none"> Pair Activity. The Buzz group activity Role play activity; In-class discussion among students students presentations and free writing strategy 	<ul style="list-style-type: none"> Interviews Presentations Homework Assignments Group assignments Blackboard: Discussion forums/ wikis/ Blogs; Tests Speaking & Writing Projects First/ Second Progress Tests Final examination.
4.0	Communication, Information Technology, Numerical		
	<ul style="list-style-type: none"> Express opinions and ideas in everyday situations. 	<ul style="list-style-type: none"> Group activity Role play activity 	<ul style="list-style-type: none"> Student presentation



	<ul style="list-style-type: none"> Discuss familiar topics, personal details and routine tasks. Describe places, family, people, living conditions and educational background in simple phrases and sentences. Write a short, simple postcards, notes, messages, fill in forms with personal details, and compose short paragraphs and simple personal letter. Use internet, Blackboard and different language learning software. 	<ul style="list-style-type: none"> In-class discussion among students Students presentations and free writing strategy Different types of groups will be assigned to search English language materials used for everyday communication on the internet and asked them to create blogs/wikis/ journal/discussion forums/course messages in Blackboard. Students will be encouraged to use internet, e-learning and different language learning software. Students will be given training on the use of Blackboard tools. 	<ul style="list-style-type: none"> Homework Assignments Group assignments Weekly Bb Assignments Blackboard: Discussion forums/ wikis/ Blogs/ Journals and Bb Quizzes Speaking & Writing Projects First/ Second Progress Tests Final examination.
5.0	Psychomotor: N/A		
	N/A	N/A	N/A

5. Course Los and the program Los.

Course Los	Program Learning Outcomes (Use Program LO Code # provided in the Program Specification)											
	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	3.1	3.2	4.1	4.2
1.1												
1.2												
2.1												
2.2												
2.3												
3.1												
3.2												
4.1												
4.2												

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (e.g. essay, test, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	First Progress Test	Week 6	17%
2	Second Progress Test	Week 12	18 %
3	Online Activities	Throughout the Semester	15%
4	Final Examination	Week 16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
7 hours per week

E . Learning Resources

- White, N. M. (2014) Unlock Level 1- Listening and Speaking Skills Student's Book. Cambridge University Press. ISBN: 9781107662117.
- Dimond-Bayir , Stephanie.(2014) Unlock Level 2- Listening and Speaking Skills Student's Book. Cambridge University Press. ISBN: 9781107635623. (Units: 1-5)
- Ostrowska, Sabina. (2014). Unlock Level 1-Reading and Writing Skills Student's Book. Cambridge University Press. ISBN 9781107650664
- O'Neill, Richard. (2014). Unlock Level 2-Reading and Writing Skills Student's Book. Cambridge University Press. ISBN 9781107644090. (Units: 1-5)

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
 - Projector with speakers fixed above the white board in ELC classrooms
 - Or TV/ screen display HDMI wifi connection
2. Computing resources (AV, data show, Smart Board, software, etc.)
 - High speed Internet connections in class

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list).

- Listen labs
- TV with speakers.

G. Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Survey
- Interviews

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Classroom feedback by quizzes/ tests/discussions
- One-to-One interaction with students

3 Processes for Improvement of Teaching

- Use of international testing frameworks to improve teaching, testing and evaluation
- Coordination between teachers of different sections of the same course.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

Gradually standardize testing with help of International English language Tests.

Use standard authentic language material and different format of questions in reading tests.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

ELC review committee meetings for student performance feedback and changes in curriculum to meet the needs of students, NCAAA updates, international developments such as changes in international tests and standards.

Name of Field Experience Teaching Staff :

Program Coordinator:

Signature: _____

Date Received: _____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

COURSE SPECIFICATION (CS)

**Course Title: Intensive English Course
Course Code: Eng. 012**



Institution: **King Khalid University**

Date: **07.01.2019**

College/Department: **Faculty of Languages and Translation/ English Language Center**

A. Course Identification and General Information

1. Course title and code: **Intensive English Course, ENG 012**

2. Credit hours: **6**

Contact Hours: **12 Hours Per Week**

3. Program(s) in which the course is offered.

- **College of Business**
- **College of Computer Science**
- **College of Engineering**
- **College of Sciences**

4. Name of faculty member responsible for the course:

5. Level/year at which this course is offered: **2nd Level**

6. Pre-requisites for this course (if any): **Eng-011**

7. Co-requisites for this course (if any):

8. Location if not on main campus: **All Campuses of the University**

9. Mode of Instruction (mark all that apply)

a. traditional classroom

What percentage?

85%

b. blended (traditional and online)

What percentage?

*15 %

c. supportive e-learning

What percentage?

d. correspondence

What percentage?

f. other

What percentage?

*Comments: Asynchronous method will be adopted. 15 % marks will be allocated for online activities.

B Objectives

1. What is the main objective for this course?

By the end of the course, students will be able to:

- Identify phrases and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment).
- Describe the main points of clear standard speech on familiar matters regularly encountered in work, school, leisure, etc, and on current affairs or topics of personal or professional interest when the delivery is relatively slow and clear.
- Recognize the main ideas in very short, simple texts as well as high frequency everyday or job related texts.
- Communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar topics and activities.
- Discuss topics that are familiar, of personal interest or pertinent to everyday life (e.g. family, hobbies, work, travel and current events) and respond to most situations likely to arise whilst travelling in an area where the language is spoken.
- Use phrases and sentences to describe in simple terms family and other people, living conditions, educational background, and present or most recent job.
- Combine phrases in a simple way in order to describe experiences and events, dreams, hopes and ambitions and give reasons and explanations for opinions and plans.
- Write short, simple notes, messages, very simple personal letter describing experiences and impressions.
- Use basic sentence patterns, phrases and groups of words in order to communicate in everyday situations.
- Construct simple grammatical structures and speak with a clear enough pronunciation to be understood.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

- For better Communicative English Competence (CEC) students should be given chance to speak a lot whether in the class oriented activities or in some sort of general participation, such as; quizzes, debates, recitation, involvement in publishing articles, making wall magazines and so on.
- Blackboard would be used for language practice outside the classroom.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description: Intensive English course is designed to develop English language proficiency among students at **A2 and B1 Levels** of the CEFR . It also aims at providing them opportunities to practice English language in real life situations.

1. Topics to be covered		
Listening and Speaking	No. of Weeks	Contact hours
<p>Book 2: Unit 6: WEATHER AND CLIMATE</p> <p>Listening 1: A news report on the climate of the Western Ghats tropical rainforest (Geography)</p> <p>Listening 2: A discussion between two students who are preparing a survey about the weather and people's moods (Psychology and Social Sciences)</p> <p>Vocabulary: Verb collocations</p> <p>Grammar: Review of future forms</p> <p>Speaking: Preparation for speaking: Linking words to explain cause and consequence;</p> <p>Speaking task: Create and complete a survey about the use of land and how it affects the climate. Present the results of the survey to your classmates.</p>	1	4
<p>Book 2- Unit 7 - SPORTS AND COMPETITION</p> <p>Listening 1: A panel discussion about the scoring system in Taekwondo (Sports science)</p> <p>Listening 2: A presentation about unusual sports (Sports science)</p> <p>Vocabulary: Vocabulary for sport (e.g. golf, gloves, rink) Adverbs</p> <p>Grammar: Review of the Present perfect</p> <p>Speaking: Preparation for speaking: Phrases to talk about advantages and disadvantages, to explain that you don't understand and to ask for further explanation;</p> <p>Speaking task: Have a panel discussion about sport and money. Talk about advantages and disadvantages.</p>	1	4
<p>Book 2- Unit 8- BUSINESS</p> <p>Listening 1: A conversation about wasting time at work (Business studies, Sociology)</p>	1	4

<p>Listening 2: A discussion between a mentor and a student about interview techniques (Business studies)</p> <p>Vocabulary: Multi-word verbs</p> <p>Grammar: Review of comparatives</p> <p>Speaking: Preparation for speaking: Phrases to give advice; Speaking task: Think of some solutions to a work or study problem and give advice to someone.</p>		
<p>Book 2 - Unit 9 - PEOPLE</p> <p>Listening 1: A conversation between two students about two remarkable people (History)</p> <p>Listening 2: A seminar discussion about inventions with unusual designs (Industrial design)</p> <p>Vocabulary: <i>-ed</i> and <i>-ing</i> adjectives</p> <p>Grammar: Suffixes</p> <p>Speaking: Preparation for speaking: Phrases and questions to talk about the appearance and functions of objects; Speaking task: Describe an object. Talk about what it looks like and its functions. Consider its advantages and disadvantages</p>	1	4
<p>Book 2-Unit 10 - SPACE AND THE UNIVERSE Listening 1: A radio programme about space travel (Space studies)</p> <p>Listening 2: A discussion about the International Space Station (Space studies)</p> <p>Vocabulary: Travel verbs and nouns with similar meanings; Word building</p> <p>Grammar: Conditionals</p> <p>Speaking: Preparation for speaking: Using body language to show interest Phrases to invite others to speak, interrupt or continue speaking; Speaking task: Plan a conference about space exploration. Discuss and find solutions to any possible problems</p>	1	4
First Progress Test (FPT)		
<p>Book 3- Unit 1 -ANIMALS</p> <p>Listening 1: A podcast with a veterinary student (Biology)</p> <p>Listening 2: A debate about using animals for work</p> <p>Vocabulary: Word families (e.g. analysis, analyze, analytical, analytically)</p>	1	4

<p>Grammar: Modals for obligation and suggestions (have to, have got to, should, need to, must, ought to); Contrasting ideas (e.g. but, yet, however)</p> <p>Speaking: Preparation for speaking: Preparing an opening statement for a debate, using signposting language to help the audience; Pronunciation for speaking: Introducing examples; Speaking task: Give an opening statement in a debate: Using animals for entertainment should be banned.</p>		
<p>Book 3- Unit 2- CUSTOMS AND TRADITIONS</p> <p>Listening 1: A radio programme about changing customs in the modern world (Sociology)</p> <p>Listening 2: A discussion about new social-networking habits (Culture)</p> <p>Vocabulary: Suffixes (e.g. -al, -ise, -able, -ful, -less)</p> <p>Grammar: Dependent prepositions</p> <p>Speaking: Preparation for speaking: Taking turns in a discussion Using adverbs for emphasis; Pronunciation for speaking: Phrases to emphasize agreeing and disagreeing (e.g. I strongly believe that ... , I completely disagree that ...);</p> <p>Speaking task: How has modern technology changed the way we interact with each other? What are the positive and negative aspects of this influence?</p>	1	4
<p>Book 3-Unit 3 - HISTORY</p> <p>Listening 1: A discussion about major historical finds (History)</p> <p>Listening 2: A lecture about Sultan Mehmed II (History)</p> <p>Vocabulary: Synonyms (e.g. soldiers, warriors, find, discover)</p> <p>Grammar: Relative clauses</p> <p>Speaking: Preparation for speaking: Talking about past events; Pronunciation for speaking: Past tense regular verbs /t/ /d/ /id/ Talking about time; Speaking task: Give a presentation about a famous historical figure or a historical event</p>	1	4
<p>Book 3- Unit 4- TRANSPORT</p> <p>Listening 1: A radio programme about fear of flying (Psychology)</p> <p>Listening 2: A focus-group discussion about cycling (Sociology)</p> <p>Vocabulary: Talking about achievement (e.g. challenge, goal,</p>	1	4

<p>attitude)</p> <p>Grammar: Comparing things (e.g. by far, considerably more, definitely more)</p> <p>Speaking: Preparation for speaking: Expanding ideas and giving examples of personal experiences; Speaking task: Take part in a group discussion about using your mobile phone while walking.</p>		
<p>Book 3- Unit 5 - ENVIRONMENT</p> <p>Listening 1: A lecture about agriculture (Ecology)</p> <p>Listening 2: A debate about nuclear energy (politics)</p> <p>Vocabulary: Negative prefixes (e.g. un-, in-, im-)</p> <p>Grammar: Modals to express opinions (e.g. might be, could, may)</p> <p>Speaking: Preparation for speaking: Linking ideas Talking about advantages and disadvantages; Speaking task: You are a member of a city council that has to decide how to develop a large piece of land. Argue for or against building a new shopping centre.</p>	1	4
<p>Book 3: Unit 6: HEALTH AND FITNESS</p> <p>Listening 1: A radio programme about healthy lifestyles (Fitness)</p> <p>Listening 2: Health advertisements (Health)</p> <p>Vocabulary: Phrasal verbs (e.g. go out, bring up, take up)</p> <p>Grammar: Talking about preferences (e.g. I'd rather, I'd prefer)</p> <p>Speaking: Preparation for speaking: Planning to persuade someone; Using imperatives; Using adjectives; Speaking task: Create an advertisement for an alternative treatment.</p>	1	4
Second Progress Test (SPT)		
<p>Book 3: Unit 7 DISCOVERY AND INVENTION Listening 1: A talk about inventions (Discovery) Listening 2: A lecture about mobile phone apps (Invention)</p> <p>Vocabulary: Phrases with make (e.g. make a discovery, make sure, make a difference)</p>	1	4

<p>Grammar: Passive forms</p> <p>Speaking: Preparation for speaking: Outlining a topic; Organizing ideas; Explaining how something is used; Speaking task: Give a presentation about an invention or discovery that has changed our lives.</p>		
<p>Book 3: Unit 8: FASHION</p> <p>Listening 1: A discussion about clothes (Fashion) Listening 2: Interview with a designer (Business)</p> <p>Vocabulary: Idioms and fixed expressions (e.g. I see what you mean, give me a hand, at long last)</p> <p>Grammar: Talking about the future</p> <p>Speaking: Preparation for speaking: Asking for opinions and checking information; Focusing on information that follows; Speaking task: Interview people to find out attitudes towards uniforms and dress codes.</p>	1	4
<p>Book 3: Unit 9: ECONOMICS</p> <p>Listening 1: A radio programme about millionaire lifestyles (Sociology)</p> <p>Listening 2: A discussion about whether college students should be paid for good grades (Economics))</p> <p>Vocabulary: Collocations with pay, save and money (e.g. pay in cash, save energy, borrow money)</p> <p>Grammar: Conditional sentences</p> <p>Speaking: Preparation for speaking: Using -ing verb forms to talk about actions; Asking someone to explain in more detail; Speaking task: Debate whether young people should have credit cards.</p>	1	4
<p>Book 3: Unit 10: THE BRAIN</p> <p>Listening 1: An interview about what makes a genius (Psychology)</p> <p>Listening 2: A formal conversation about brain health (Health)</p>	1	4

<p>Vocabulary: Collocations with mind (e.g. mind your own business, never mind, speak your mind)</p> <p>Grammar: Modal verbs for giving advice (If I were you, I would ...; You should ...; You ought to ...)</p> <p>Speaking: Preparation for speaking: Asking for and giving advice; Using -ing verb forms to talk about actions; Speaking task: Ask for and give advice on how to study effectively and what type of courses to consider.</p>		
Revision/ Final Examination		
Revision/ Final Examination		
Revision/ Final Examination		
Total contact hours per semester for Listening and Speaking Skills: 60		
Reading and Writing	No. of Weeks	Contact hours
<p>Book 2- Unit 6: WEATHER AND CLIMATE</p> <p>Reading 1: Extreme weather (Geography)</p> <p>Reading 2: Surviving the Sea of Sand (Environmental Science)</p> <p>Vocabulary: Vocabulary to describe temperatures and graphs (e.g. high, low, rise, drop, an increase, a decrease)</p> <p>Grammar: Collocations with temperature; Describing a graph;</p> <p>Grammar for writing: Comparative and superlative adjectives</p> <p>Writing: Academic writing skills: Introductory sentences for descriptive paragraphs about a graph; Writing task type: Write sentences to describe a graph. Writing task: Describe a graph</p>	1	8
<p>Book 2: Unit 7: SPORTS AND COMPETITION</p> <p>Reading 1: Five strange sports (Sports Science)</p> <p>Reading 2: Tough man: a race to the limit (Sports Science)</p> <p>Vocabulary: Vocabulary to describe prepositions of movement (e.g. past, through, across, along, over)</p> <p>Grammar: Prepositions of movement; Grammar for writing: Subject and verb agreement</p> <p>Writing: Academic writing skills: Ordering events in a process; Eliminating irrelevancies; Writing task type: Write a process paragraph; Writing task: Write a process paragraph to describe the Sydney triathlon.</p>	1	8

<p>Book 2: Unit 8: BUSINESS Reading 1: Are you ready for the world of work? (Human Resources) Reading 2: You can choose your grandma! (Business)</p> <p>Vocabulary: Vocabulary to describe business (e.g. set up, a business partner, an employee, employ, a product)</p> <p>Grammar: Collocations with business; Business vocabulary Grammar for writing: Past and present tenses; Clauses with when</p> <p>Writing: Academic writing skills: Adding detail; Writing task type: Write a narrative paragraph; Writing task: Write a narrative paragraph about the business history of Google</p>	1	8
<p>Book 2: Unit 9: PEOPLE Reading 1: Respect! (Sociology) Reading 2: People I admire (Sociology)</p> <p>Vocabulary: Vocabulary to describe people (e.g. reliable, talented, patient, sensible, selfish)</p> <p>Grammar: Noun phrases with of Adjectives to describe people; Grammar for writing: Subject and object pronouns; Possessive adjectives</p> <p>Writing: Academic writing skills: Concluding sentences Writing task type: Write an explanatory paragraph; Writing task: Describe a person you admire and explain why.</p>	1	8
<p>Book 2: Unit 10: SPACE AND THE UNIVERSE Reading 1: Alien Planet (Space Science) Reading 2: Life on other planets (Space Science)</p> <p>Vocabulary: Vocabulary to describe giving evidence and supporting an argument (e.g. studies, reports, research, an expert)</p> <p>Grammar: Giving evidence and supporting an argument; should and it is important to; Grammar for writing: Developing sentence structure; Infinitive of purpose</p> <p>Writing: Academic writing skills: Essay organization; Writing</p>	1	8

<p>task type: Write a balanced opinion essay. Writing task: Exploring space is very expensive. Some people think that it is too expensive. However, other people think it is a good way for governments to spend our money. Discuss both points of view and give your opinion.</p>		
First Progress Test (FPT)		
<p>Book 3: Unit 1: ANIMALS</p> <p>Reading 1: Endangered species (zoology)</p> <p>Reading 2: Losing the battle for survival (zoology)</p> <p>Vocabulary: Academic adjectives 1 (e.g. common, healthy, endangered)</p> <p>Grammar: Comparative adjectives; Grammar for writing: Word order, using and, but and whereas</p> <p>Writing: Academic writing skills: Punctuation: capital letters, full stops, commas; Writing task type: Write two comparison paragraphs; Writing task: Compare and contrast the two sharks in the diagram.</p>	1	8
<p>Book 3: Unit 2: CUSTOMS AND TRADITIONS</p> <p>Reading 1: Customs around the world (Sociology)</p> <p>Reading 2: A British wedding (Cultural studies)</p> <p>Vocabulary: Academic adjectives 2 (e.g. brief, certain, obvious)</p> <p>Grammar: Avoiding generalizations with <i>can</i> and <i>tend to</i>; Adverbs of frequency; Grammar for writing: Adding detail for interest; Prepositional phrases</p> <p>Writing: Academic writing skills: Essay structure; Writing task type: Write three descriptive paragraphs; Writing task: Describe the laws and traditions concerning weddings. Have there been any changes in recent years?</p>	1	8

<p>Book 3: Unit 3: HISTORY</p> <p>Reading 1: Museum brochures (History) Reading 2: Should we teach history? (Education)</p> <p>Vocabulary: Academic vocabulary (e.g. display, document, period)</p> <p>Grammar: Making suggestions; Grammar for writing: Stating opinions; Linking contrasting sentences with <i>but</i>, <i>however</i>, <i>although</i> and <i>on the other hand</i></p> <p>Writing: Academic writing skills: Write an introduction Writing task type: Write a balanced opinion essay. Writing task: Should museums be free or should visitors pay for admission? Discuss.</p>	1	8
<p>Book 3: Unit 4: TRANSPORT</p> <p>Reading 1: Masdar: The future of cities? (Transport management) Reading 2: Solving traffic congestion (Urban planning)</p> <p>Vocabulary: Collocation (e.g. traffic congestion, public transport, rush hour); Academic synonyms (e.g. prevent, select, consider)</p> <p>Grammar: Grammar for writing: First conditional • Using if ... not and unless</p> <p>Writing: Academic writing skills: Write a conclusion Writing task type: Write a problem–solution essay based on a map. Writing task: Describe the traffic problems in this city and outline the advantages and disadvantages of the suggested solutions.</p>	1	8
<p>Book 3: Unit 5: ENVIRONMENT</p> <p>Reading 1: Our changing planet (Physical geography) Reading 2: What are the causes of deforestation and what are its effects on the natural environment? (Natural sciences)</p> <p>Vocabulary: Academic vocabulary (e.g. annual, issue, predict)</p>	1	8

<p>Topic vocabulary (e.g. deforestation, climate change, flood)</p> <p>Grammar: Grammar for writing: Cause and effect; Using because and because of</p> <p>Writing: Academic writing skills: Write a topic sentence; Writing task type: Write two cause–effect paragraphs; Writing task: Outline the human causes of climate change. What effects will these have on the planet?</p>		
<p>Book 3: Unit 6: HEALTH AND FITNESS</p> <p>Reading 1: Keep fit (Medicine) Reading 2: Tackling obesity (Nutrition)</p> <p>Vocabulary: Academic verbs and nouns (e.g. injure, suffer, encourage); Collocation (e.g. life expectancy, serious illness, junk food)</p> <p>Grammar: Grammar for writing: Giving reasons; Giving examples with such as, for instance, for example, especially</p> <p>Writing: Academic writing skills: Write supporting sentences; Writing task type: Write a problem-solution essay; Writing task: What can people do to live longer? What can a government do to increase the average life expectancy of its country's citizens?</p>	1	8
Second Progress Test (SPT)		
<p>Book 3: Unit 7: DISCOVERY AND INVENTION</p> <p>Reading 1: The magic of mimicry (Science and technology) Reading 2: The world of tomorrow (Product design)</p> <p>Vocabulary: Understanding prefixes (e.g. misunderstand, underperform, unsafe)</p> <p>Grammar: Making predictions with will, could and won't Grammar for writing: Relative clauses; Advantages and disadvantages</p> <p>Writing: Academic writing skills: Edit for common errors;</p>	1	8

<p>Writing task type: Write an advantage–disadvantage essay; Writing task: Choose one new area of technology or invention and outline its advantages and disadvantages</p>		
<p>Book 3: Unit 8: FASHION Reading 1: Is fast fashion taking over? (Retail management) Reading 2: Offshore production (Human resources)</p> <p>Vocabulary: Hyponyms (e.g. fashion and clothing, beauty products and cosmetics) Homonyms (e.g. approach, volume, goal)</p> <p>Grammar: Grammar for writing: Prepositional phrases (e.g. apart from, rather than, along with); Counter-arguments (e.g. argue, claim, insist, state)</p> <p>Writing: Academic writing skills: Cohesion; Coherence Writing task type: Write a balanced opinion essay; Writing task: Fashion is harmful. Discuss.</p>	1	8
<p>Book 3: Unit 9: ECONOMICS Reading 1: How should you invest your money? (Business) Reading 2: How times have changed (Economics)</p> <p>Vocabulary: Academic vocabulary (e.g. economy, finance, industry); Synonyms (e.g. purchase and buy, domestic and household)</p> <p>Grammar: Grammar for writing: Describing graphs – noun phrases and verb phrases; Using prepositions and conjunctions to add data ; Writing approximations of numerical data (e.g. nearly, more than, approximately)</p> <p>Writing: Academic writing skills: Writing a description of a graph; Writing task type: Write an explanatory paragraph describing a graph; Writing task: Describe both graphs and explain the data.</p>	1	8
<p>Book 3: Unit 10: THE BRAIN Reading 1: Tricks played by the brain (Psychology) Reading 2: Mind control (Neurology)</p> <p>Vocabulary: Medical language (e.g. surgery, vaccination, treatment,) Academic verbs (e.g. recover, care, confirm)</p> <p>Grammar: Grammar for writing: Passive (in narrative tenses and</p>	1	8

with modal verbs		
Writing: Academic writing skills: Writing a description of a process; Writing task type: Write a process paragraph Writing task: Explain how the body responds to changes in temperature.		
Revision/ Final Examination		
Revision/ Final Examination		
Revision/ Final Examination		
Total contact hours per semester for Reading and Writing Skills : 120		

2. Course components (total contact hours and credits per semester):

	Lecture	Tutorial	Laboratory or Studio	Practical	Other:	Total
Contact Hours	180	0	N/A	0		*180
Credit	6	0	N/A	0		6

* Total hours per semester for the whole course

3. Additional private study/learning hours expected for students per week.	7
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4. Course Learning Outcomes in NQF(National Quality framework) Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1	Knowledge		
	<ul style="list-style-type: none"> Identify the main points of reading/ listening texts on familiar matters regularly encountered in work, school, leisure, etc. 	<ul style="list-style-type: none"> Applying PPP (Presentation, Practice and Product) method; Lectures in classroom; Demonstrations; 	<ul style="list-style-type: none"> Homework Assignments; Quizzes; Class Tests; Online (Blackboard) assignments, blogs, discussion



	<ul style="list-style-type: none"> Recognize the sentences and frequently used expressions related to areas of most immediate relevance Recall information on familiar and routine matters. Define in simple terms aspects of their background, immediate environment and matters in areas of immediate need. Describe simple connected text on topics that are familiar or of personal interest. Discuss experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans. 	<ul style="list-style-type: none"> Buzz Group Activity; Role Play Activity; In – class discussion (student participation); Activity-based teaching; 	<ul style="list-style-type: none"> forums; e-quizzes; First/ Second Progress Tests; Final examination.
2	Cognitive		
	<ul style="list-style-type: none"> Interpret the main points of reading/ listening texts on familiar matters regularly encountered in work, school, leisure, etc. Distinguish the sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Illustrate in simple terms 	<ul style="list-style-type: none"> Using scaffolding approach; Applying PPP (Presentation, Practice and Product) method; Lectures in classroom; Demonstrations; Buzz Group Activity; Role Play Activity; In – class discussion (student participation); Activity-based teaching; Free, Guided, and Controlled Writing Strategies. 	<ul style="list-style-type: none"> Homework Assignments; Quizzes; Class Tests; Online (Blackboard) assignments, blogs, discussion forums; e-quizzes; Speaking & Writing Projects; First/ Second Progress Tests; Final examination.

	<p>aspects of their background, immediate environment and matters in areas of immediate need.</p> <ul style="list-style-type: none"> • Produce simple connected text on topics that are familiar or of personal interest. • Describe experiences and events, dreams, hopes and ambitions • Give reasons and explanations for opinions and plans. 		
3.0	Interpersonal Skills & Responsibility:		
	<ul style="list-style-type: none"> • Develop language skills: listening, speaking, reading and writing. • Apply reading strategies - Previewing/ Skimming/ Scanning texts on familiar matters regularly encountered in work, school, leisure, etc. • Write simple connected text on topics that are familiar or of personal interest. • Talk about topics that are familiar, of personal interest or pertinent to everyday life. • Construct grammatically correct paragraphs. 	<ul style="list-style-type: none"> • Pair Activity. • The Buzz group activity • Role play activity; • In-class discussion among students • Students presentations and free writing strategy. 	<ul style="list-style-type: none"> • Interviews • Presentations • Homework Assignments • Group assignments • Blackboard: Discussion forums/wikis/Blogs; Tests • Speaking & Writing Projects • First/ Second Progress Tests • Final examination.
4.0	Communication, Information Technology, Numerical		
	<ul style="list-style-type: none"> • Express themselves in everyday situations. • Use lexical items related to areas of most immediate relevance (e.g. very basic 	<ul style="list-style-type: none"> • Group activity • Role play activity • In-class discussion among students • Students presentations 	<ul style="list-style-type: none"> • Student presentation • Homework Assignments • Group assignments • Weekly Bb Assignments • Blackboard: Discussion



	<p>personal and family information, shopping, local geography, employment) and the vocabulary that is regularly encountered in work, school, leisure, etc.</p> <ul style="list-style-type: none"> Describe in simple terms aspects of their background, immediate environment and matters in areas of immediate need. Compose simple connected text on topics that are familiar or of personal interest. Describe experiences and events, dreams, hopes and ambitions and briefly give reasons and explanations for opinions and plans. Use internet, Blackboard and different language learning software. 	<p>and free writing strategy</p> <ul style="list-style-type: none"> Different types of groups will be assigned to search English language materials used for everyday communication on the internet and asked them to create blogs/wikis/ journal/discussion forums/course messages in Blackboard. Students will be encouraged to use internet, e-learning and different language learning software. Students will be given training on the use of Blackboard tools. 	<p>forums/ wikis/ Blogs/ Journals and Bb Quizzes</p> <ul style="list-style-type: none"> Speaking & Writing Projects First/ Second Progress Tests Final examination.
5.0	Psychomotor: N/A		
5.1	N/A	N/A	N/A

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)				
	1 English	2 Com. Serv.	3 Cross-cultural	4 Prof. Comp.	5 Soci. Comp.
1					
2					
3					

6. Schedule of Assessment Tasks for Students During the Semester

Assessment task (e.g. essay, test, group project, examination,	Week Due	Proportion of Total

	speech, oral presentation, etc.)		Assessment
1	First Progress Test	Week 6	17%
2	Second Progress Test	Week 12	18 %
3	Online Activities	Throughout the Semester	15%
4	Final Examination	Week 16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week):

Class hours, tutorial hours, schedule of 7 office hours

E. Learning Resources

- Dimond-Bayir , Stephanie.(2014) Unlock Level 2- Listening and Speaking Skills Student's Book. Cambridge University Press. ISBN: 9781107635623. (Units: 6-10)
- Ostrowska , Sabina.(2014) Unlock Level 3- Listening and Speaking Skills Student's Book. Cambridge University Press. ISBN: 9781107676107.
- O'Neill, Richard. (2014). Unlock Level 2-Reading and Writing Skills Student's Book. Cambridge University Press. ISBN 9781107644090. (Units: 6-10)
- Westbrook , Carolyn. (2014). Unlock Level 3-Reading and Writing Skills Student's Book. Cambridge University Press. ISBN 9781107637573.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

A. Lecture Desk with drawers or cabinets: 1 (For the Teacher)

B. OHP

C. Projector: 1 Fixed on the ceiling of the class room for using laptop/notebook.

D. Speakers fixed on the wall: Specially needed for Listening practice classes and listening tests.

E. Voice recording and playing equipments and software.

2. Computing resources (AV, data show, Smart Board, software, etc.)

Laptops, projectors and smart boards are needed in the classroom. There should be computer CDs and Internet facility.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

- Listening labs

G. Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- Student Survey
- Interviews

2 Other Strategies for Evaluation of Teaching by the Instructor or by the Department

Class room observation

- Discussion within the group of faculty members teaching the course
- Asking for others opinion
- Peer evaluation among the teachers

3 Processes for Improvement of Teaching:

- To maintain the impartiality of checking the answer scripts, the final examination scripts can be rechecked by other teachers who will be known as second examiner.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- To maintain the impartiality of checking the answer scripts, the final examination scripts can be rechecked by other teachers who will be known as second examiner.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement:

- Meetings will be arranged with the course instructors to discuss the effectiveness of course plan.

Name of Instructor: _____ Signature: _____

Name of Program Coordinator: _____

Signature: _____ Date Received: _____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 109CHM

Course Name: Chemistry



Course Specifications

Institution: King Khalid University	Date: 05-02-2018
College/Department : College of Computer Science / Computer Engineering	

A. Course Identification and General Information

1. Course title and code: Chemistry 109CHM			
2. Credit hours: 03			
3. Program(s) in which the course is offered. Bachelor in Computer Engineering. (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course Chemistry Staff Members.			
5. Level/year at which this course is offered: Level 3 / Second year			
6. Pre-requisites for this course (if any): None			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus: Academic Campus in Grygre			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments: None			

B Objectives

1. What is the main purpose for this course?

To give a general introduction to chemistry that incorporates both lectures and laboratory experiments in identifying and developing chemical concepts and practices.

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

1- Using different strategic teaching (white board and power point presentation)

2- Updating the contents of the syllabus

3- Activation the blackboard.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

This course focuses on introduction to chemistry course that incorporates both lectures and laboratory experiments in developing and understanding chemical concepts and practices, identification of matters and measurement, properties of substances, significant figures and uncertainty in measurements. The course includes: Atoms, atomic structure, and electronic configuration. Mass relations in Chemistry, molecular mass, simplest formula, molecular formula, structural formula, mass relation in reactions, Gases, Ideal gases, Gas law, Avogadro, Dalton's Law of Partial Pressure, Kinetic Theory of Gases, Liquids, Solids and Intermolecular Forces, Equilibrium between phases and Properties of Liquids, Electronic Structure of Atoms, Electromagnetic Radiation, The Quantum Theory, The Bohr's Theory, The Modern Theory of Atomic Structure, Electronic Configuration, Ionization Energy, Covalent bonding, Lewis structures, octet rule, molecular geometry.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
Matter: Matter Properties and Measurements, Types of Matter, Quantities and SI-units, Uncertainty and Significant Figures.	1	3
Atoms and the atomic theory: Dalton's theory, Modern view of atomic structure, Isotopes, Introduction to the periodic table, Molecular Formula, Empirical or Simplest Formula, Structural Formula, Formula of ionic compounds.	3	9
Mass Relations in Chemistry: Mole, Molecular Mass, Simplest Formula from Chemical analysis, Molecular Formula from Simplest Formula and Mass Relations in Reactions.	3	9
Gases: Properties of Gases, The Simple Gas Laws, The Ideal Gas Equation and The General Gas Equation, Mixtures of Gases, Dalton's Law of Partial Pressure, Graham's Law, Real Gas and van der Waals	3	9
Liquids and Solids: Solids and Intermolecular Forces, Properties of Liquids, Vaporization of Liquids, Vapor Pressure, Some Properties of Solids, Phase Diagrams, Van der Waals Forces, Hydrogen Bonding, Chemical Bonds as Intermolecular Forces.	2	6

Electronic Structure of Atoms: Electromagnetic Radiation, The Quantum Theory, Bohr's Theory, De-Broglie Principal, The Modern Theory of Atomic Structure, Pauli Exclusion Principle, Hund's Rule, Electronic Configuration, Isoelectronic, Trends in the Properties of Atoms in Periodic Table, Atomic Radius, Ionic Radius of ions, Ionization Energy, Electronegativity.	2	6
Chemical Bonding: Covalent bonding, Lewis structures, octet rule, molecular geometry.	1	3

LIST OF LAB EXPERIMENTS	NO OF WEEKS	CONTACT HOURS
Identification the safety rules in laboratory	1	2
Determination the density of liquid and solid substances	1	2
Determination the viscosity of organic liquid	1	2
Identification the acidic radicals of the salts	1	2
Identification the basic radicals of the salts	2	4
Scheme for identification the acidic and basic radicals of the salts	2	4
Preparation of sodium carbonate (Na ₂ CO ₃) and sodium bicarbonate (NaHCO ₃) solutions	2	4
Separation of a mixture containing NaCl, SiO ₂ , and (NH ₄) ₂ CO ₃	2	4
Determination the value of general gas constant (R)	1	2
Determination the molecular weight of volatile liquid	1	2
Final Exam	1	2

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	45			30		75
	Actual						
Credit	Planned	3			1		4
	Actual						

3. Additional private study/learning hours expected for students per week.

3

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process.

(Courses are not required to include learning outcomes from each domain.)			
Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1	Describe matters and measurement, properties of substances, atoms, Mass relations in Chemistry.	Lectures+ tutorials	Exams, homework, quizzes and discussions.
1.2	Define reaction energies, reaction rate, equilibrium, and Le Chatelier's principle as applied in chemical reactions.	Lectures+ tutorials	Exams, homework, quizzes and discussions.
1.3	State the principle physical attributes of the liquid state, the solid state, and the gaseous state and the energy associated with phase changes.	Lectures+ tutorials	Exams, homework, quizzes and discussions.
1.4	Describe the principles of electromagnetic radiation, energy levels in atoms, electrovalence (charge), and electron configuration.	Lectures+ tutorials	Exams, homework, quizzes and discussions.
1.5	State the Covalent bonding, Lewis structures, octet rule, and molecular geometry.	Lectures+ tutorials	Exams, homework, quizzes and discussions.
2.0	Cognitive Skills		
2.1	Perform unit analysis problems (involving the metric system, unit conversions, volume, density and temperature) applying significant digits and scientific notation.	Lectures+ tutorials	Short and long essays, Exam
2.2	Explain the basic principles of atomic theory, the nuclear atom, isotopes and atomic mass.	Lectures+ tutorials	Short and long essays, Exam
2.3	Compare molecular formulas from names of compounds and names from molecular formulas for both ionic and covalently bonded compounds.	Lectures+ tutorials	Short and long essays, Exam
2.4	Conduct mole calculations and mass to mass calculations involving reactions.	Lectures+ tutorials	Short and long essays, Exam
2.5	Interpret the gas laws and solve problems related to ideal gases, real gases, atmospheric gases and greenhouse gases.	Lectures+ tutorials	Short and long essays, Exam
2.6	Prepare correctly and efficiently common laboratory equipment and properly make measurements and perform experiments.	Lab activities + Projects	Exam, Lab Report, Lab Manual
3.0	Interpersonal Skills & Responsibility		
3.1	Use effectively of the library and other information resources in chemistry critically and ethically.	Group projects	Group discussion, case study, group report
4.0	Communication, Information Technology, Numerical		
4.1	Illustrate skills in technical writing and oral presentations.	Discussions Demonstrations	Presentations Group report
5.0	Psychomotor		

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
1.1	✓										
1.2	✓										
1.3	✓										
1.4	✓										
1.5	✓										
2.1			✓								
2.2			✓								
2.3			✓								
2.4			✓								
2.5			✓								
2.6					✓						
3.1								✓			
4.1										✓	✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	Assignment 1	3	2%
2	Quiz 1	5	3%
3	MidTerm Exam 1	7	10%
4	MidTerm Exam 2	11	10%
5	Lab activities, reports and exams	13-14	25%
6	Final Exam	15-16	50%

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
Office hours (10 hours per week).

E Learning Resources

1. List Required Textbooks

- Ralph H. Petrucci, William S. Harwood, and F. Geoffrey Herring, "General Chemistry: Principles and Modern Applications", 10th Edition, Pearson, 2010. ISBN-13: 978-0132064521

2. List Essential References Materials (Journals, Reports, etc.)

- Catherine E. Housecroft, Edwin C. Constable, "Chemistry: An Introduction to Organic, Inorganic and Physical Chemistry", 3rd Ed., Pearson Education Limited, 2006. ISBN-13: 978-0273733089
- Theodore L. Brown, H. Eugene LeMay, Jr, Bruce E. Bursten, "Chemistry: The Central Science", 10th Ed., Pearson Education, Inc., 2006. ISBN- 0131972707

3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.

Electronic references – web sites

4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

Nil

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)

1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)

- One lecture rooms with 40 seats
- One laboratory with 20 seats

2. Technology resources (AV, data show, Smart Board, software, etc.)

- Data Show (Projectors) in lecture room and lab
- One server & 20 client systems with necessary software.

3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

None

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching

- At the end of semester written feedback is taken from students about course content, teaching methodology and their understanding of the course.

2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department

- Departmental evaluation from students about teacher
- Course evaluation report from the course coordinator after the exam

3. Processes for Improvement of Teaching

- Observations made from the course evaluation report by the course coordinator
- Head of department observations, suggestions, instructions etc.

4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)

- The course coordinator verify the standards of the student achievements

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

- The subjects are reviewed periodically by the Subject committee and the head of the department for improvement. Subject committee comprising of all theory and lab tutors of the course. Need to conduct at least one meeting per semester to review the progress and effectiveness of the course.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 202ARAB

Course Name: Arabic Editing



Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department : Faculty of Humanities / Department of Arabic Language and Literature	

A. Course Identification and General Information

1. Course title and code: Arabic Editing 202ARAB			
2. Credit hours: 2			
3. Program(s) in which the course is offered. Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 4 / Second Year			
6. Pre-requisites for this course (if any): None			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?	<ul style="list-style-type: none"> • أن يتمكن الطالب من الكتابة وفق قواعد الإملاء الصحيحة. • أن يتعرف الطالب على أساليب الكتابة العربية. • أن يتجنب الطالب الأخطاء الشائعة في الخطاب المتداول. • أن يجيد الطالب استعمال علامات الترقيم.
2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)	<ul style="list-style-type: none"> • تبادل الخبرات بين أعضاء هيئة التدريس. • عرض محتوى المقرر على أعضاء مجلس القسم بالكلية. • عرض محتوى المقرر على بعض المحكمين في المجال ذاته. • استخدام التعلم الإلكتروني في تدريس المقرر.

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:	<p>هذا المقرر يوضح للطالب الهمزة في أول الكلمة، الهمزة في وسط الكلمة والهمزة في آخر الكلمة. كما يعلم الطلاب كتابة الناء المربوطة والهاء الألف اللينة- الضاد والطاء وهم قواعد الترقيم. كما يشرح الأخطاء الشائعة في الكتابة والشروط الموضوعية للكتابة وكتابة المقالة، البحث، الرسالة، التقرير وكيفية التلخيص.</p>
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1. Topics to be Covered		
List of Topics	No. of Weeks	Contact hours
محاضرة تمهيدية: • تعريف الطلاب بالمقرر وأهدافه الرئيسية والمفردات العلمية التي يشتمل عليها • توضيح استراتيجيات التعليم للمقرر وطرق تقويم الطالب	2	4
الهمزة في أول الكلمة.	1	2
الهمزة في وسط الكلمة.	1	2
الهمزة في آخر الكلمة.	1	2
كتابة الناء المربوطة والهاء الألف اللينة- الضاد والطاء.	1	2
قواعد الترقيم .	1	2
امتحان الأعمال الأول	1	2
الأخطاء الشائعة.	1	2
الشروط الموضوعية للكتابة. المقالة.	1	2
البحث	1	2
الرسالة	1	2
التقرير	1	2
التلخيص	1	2
امتحان الأعمال الثاني	1	2

2. Course components (total contact hours and credits per semester):							
		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30					30
	Actual						
Credit	Planned	2					2
	Actual						

3. Additional private study/learning hours expected for students per week.	NO
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4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.

First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1			
2.0	Cognitive Skills		
2.1			
3.0	Interpersonal Skills & Responsibility		
3.1	اكتساب الاستقلالية، التعاون مع الآخرين، اتخاذ القرار و الحوار الفعال.	الحوار والمناقشة، التعلم الإلكتروني الفعال، التعلم الفردي	الملاحظة، مشروعات مشتركة، قياس التفاعل الاجتماعي
3.2	استخدام محركات البحث عبر الإنترنت.	التدريس بالتعلم الإلكتروني التفاعلي	ملفات إنجاز
3.3	استخدام الأدوات الإلكترونية المتاحة لتوصيل فكرة معينة.	التدريس باستخدام الحاسب الآلي	الملاحظة و المناقشة
4.0	Communication, Information Technology, Numerical		
4.1	أن يتمكن الطالب من الكتابة وفق قواعد الإملاء الصحيحة و بأسلوب عربي صحيح.	الحوار والمناقشة.	اختبارات تحريرية.
4.2	أن يتعرف الطالب على أساليب اللغة العربية المتنوعة في التعبير و أن يجيد استعمال علامات الترقيم.	التعلم التعاوني، حل المشكلات. التعلم الذاتي.	اختبارات تحريرية. ملفات إنجاز
4.3	أن يتجنب الطالب الأخطاء الشائعة في الخطاب المتداول.	التعلم الإلكتروني.	الأبحاث التي يقوم بها الطالب
5.0	Psychomotor		
5.1			

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)
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LOs #	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
3.1							✓				
3.2									✓		
3.3									✓		
4.1										✓	
4.2										✓	
4.3											✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	اختبار فصلي تحريري أول	7	20 %
2	اختبار فصلي تحريري ثان	14	20 %
3	مشاركات شفوية	كل أسبوع	5 %
4	أبحاث وتكليفات	2	5 %
5	اختبار نهائي تحريري	نهاية الفصل	50 %

D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
ساعات مكتبية (24) ساعة مكتبية لكل عضو هيئة تدريس .

E Learning Resources

فن التحرير العربي تأليف محمد صالح الشنطي.
2. List Essential References Materials (Journals, Reports, etc.)
1. قواعد الإملاء، عبد السلام هارون. 2. معجم لإعراب والإملاء، أميل يعقوب. 3. المعجم العربي، رياض زكي قاسم. 4. كشكول، عبد الهادي حرب.
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.
1. شبكة الفصح - http://www.alfaseeh.com/vb/furumdisplay.php 2. منتديات واتا الحضارية - قسم الآداب والعلوم الإنسانية. http://www.wata.cc 3. مجالس الفصحى لعلوم اللغة العربية وآدابها http://www.alfusha.net
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)
• حجرة لكل شعبة تناسب مع أعداد الطلاب المسجلين بها.
2. Technology resources (AV, data show, Smart Board, software, etc.)
جهاز عرض
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching	<ul style="list-style-type: none"> • مقابلات مع الطلاب. • تحليل نتائج الطلاب. • متابعة الخريجين بعد التخرج. • استبانات من قبل الطلاب.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department	<ul style="list-style-type: none"> • تقويم القسم السنوي. • استبانات تقييم أعضاء هيئة التدريس. • تقييم الطلاب للمقرر الدراسي.
3. Processes for Improvement of Teaching Lecture, small group work, whole group and small group discussion, research activities, guest speakers, individual presentation, brainstorming	<ul style="list-style-type: none"> • حضور الندوات والمؤتمرات المتخصصة. • برامج تدريبية لأعضاء هيئة التدريس. • حوافز تشجيعية ومادية. • تبادل الخبرات بين أعضاء هيئة التدريس. • الارتقاء بالعلاقة بين المعلم والطلاب. • متابعة المعايير العالمية للمقرر الدراسي التي تهدف إلى تحسين جودة المنتج التعليمي. • إعادة النظر في الاستراتيجيات المتبعة. • تطوير أساليب التقويم.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)	استخدام الطرق الإحصائية الحديثة في مقارنة نتائج الطلاب في جامعات أخرى يدرسون المقرر نفسه.
5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.	<ul style="list-style-type: none"> • نتائج التحليل الإحصائي لدرجات الطلاب. • القائمين على التدريس. • رأي الخبراء. • توصيات نتائج ورش العمل والندوات والمؤتمرات المتخصصة. • اللقاءات الدورية بالطلاب المتميزين علمياً لمعرفة الجوانب السلبية والإيجابية. • مراجعة أساليب التقويم.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

ATTACHMENT 5.

T6. COURSE SPECIFICATIONS (CS)

Course Code: 201ARAB

Course Name: Arabic Language Skills



Course Specifications

Institution: King Khalid University	Date: 01/02/2018
College/Department : Faculty of Humanities / Department of Arabic Language and Literature	

A. Course Identification and General Information

1. Course title and code: Arabic Language Skills 201ARAB			
2. Credit hours: 2			
3. Program(s) in which the course is offered. Bachelor in Computer Engineering (If general elective available in many programs indicate this rather than list programs)			
4. Name of faculty member responsible for the course			
5. Level/year at which this course is offered: Level 3 / Second Year			
6. Pre-requisites for this course (if any): None			
7. Co-requisites for this course (if any): None			
8. Location if not on main campus:			
9. Mode of Instruction (mark all that apply):			
a. traditional classroom	<input checked="" type="checkbox"/>	What percentage?	<input type="text" value="100%"/>
b. blended (traditional and online)	<input type="checkbox"/>	What percentage?	<input type="text"/>
c. e-learning	<input type="checkbox"/>	What percentage?	<input type="text"/>
d. correspondence	<input type="checkbox"/>	What percentage?	<input type="text"/>
f. other	<input type="checkbox"/>	What percentage?	<input type="text"/>
Comments:			

B Objectives

1. What is the main purpose for this course?

- تحسين مستوى الإعراب
- إجابة التحدث بالعربية الفصحى.
- الابتعاد عن الأخطاء اللغوية الشائعة

2. Briefly describe any plans for developing and improving the course that are being implemented. (e.g. increased use of IT or web based reference material, changes in content as a result of new research in the field)

تم تطوير المقرر بإعداد كتاب جديد من قبل القسم

C. Course Description (Note: General description in the form used in Bulletin or handbook)

Course Description:

هذا المقرر يشمل الكلمة والكلام وعلامات الأسماء وعلامات الأفعال - الإعراب والبناء والعموم والخصوص في دلالات الألفاظ ونماذج من الأخطاء الشائعة ودراسة المعاجم وتطبيقاتها.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
الكلمة والكلام وعلامات الأسماء.	1	2
علامات الأفعال - الإعراب والبناء.	1	2
أبواب الإعراب بالنيابة.	3	6
دراسة العدد.	1	2
دلالات الألفاظ.	2	4
العموم والخصوص في دلالات الألفاظ.	2	4
نماذج من الأخطاء الشائعة.	1	2
دراسة المعاجم وتطبيقاتها.	1	2
لمحة عن تكامل علوم العربية.	1	2
من أعلام العربية.	2	4

2. Course components (total contact hours and credits per semester):

		Lecture	Tutorial	Laboratory/ Studio	Practical	Other:	Total
Contact Hours	Planned	30					30
	Actual						
Credit	Planned	2					2
	Actual						

3. Additional private study/learning hours expected for students per week.

ساعة مكتبية لكل شعبة

4. Course Learning Outcomes in NQF Domains of Learning and Alignment with Assessment Methods and Teaching Strategy

On the table below are the five NQF Learning Domains, numbered in the left column.
First, insert the suitable and measurable course learning outcomes required in the appropriate learning domains (see suggestions below the table). **Second**, insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes. **Third**, insert appropriate assessment methods that accurately measure and evaluate the learning outcome. Each course learning outcomes, assessment method, and teaching strategy ought to reasonably fit and flow together as an integrated learning and teaching process. (Courses are not required to include learning outcomes from each domain.)

Code #	NQF Learning Domains And Course Learning Outcomes	Course Teaching Strategies	Course Assessment Methods
1.0	Knowledge		
1.1			
2.0	Cognitive Skills		
2.1			
3.0	Interpersonal Skills & Responsibility		
3.1	اظهار العمل الجماعي في اعداد مشاريع اللغة العربية	المحاضرة.	اختبارات تحريرية.
3.2	التصرف بمسؤولية عند التعبير اللفظي و الكتابي مع الاخرين	الحوار والمناقشة. حل المشكلات	الملاحظة - اختبارات تحريرية
4.0	Communication, Information Technology, Numerical		
4.1	كتابة بعض الفقرات للاطلاع على مدى التطبيق العملي للقواعد عند الكتابة	المحاضرة، المناقشة.	اختبارات تحريرية.
4.2	تعويد الطلاب على النطق بالعربية الفصحى وتطبيق القواعد النحوية التي تعلموها عند المشافهة.	الحوار والمناقشة.	اختبارات شفوية.
4.3	تنمية الحس اللغوي لدى الطلاب، وتجنب الأخطاء الشائعة نطقا وكتابة.	جهاز عرض على الشاشة	اختبارات شفوية وتحريرية. قراءة بعض النصوص. مشاركة الطلاب في القاعة.
4.4	الحكم الصحيح على كيفية نطق الكلمات و اعرابها	التدريبات	النطق بالعربية الفصحى و تطبيق القواعد النحوية. كتابة بعض الفقرات.
5.0	Psychomotor		
5.1			

5. Map course LOs with the program LOs. (Place course LO #s in the left column and program LO #s across the top.)

Course LOs #	Program Learning Outcomes (Use Program LO Code #s provided in the Program Specifications)										
	a1	a2	b1	b2	b3	b4	c1	c2	c3	d1	d2
3.1							✓				
3.2								✓			
4.1										✓	
4.2											✓
4.3											✓
4.4											✓

6. Schedule of Assessment Tasks for Students During the Semester

	Assessment task (i.e., essay, test, quizzes, group project, examination, speech, oral presentation, etc.)	Week Due	Proportion of Total Assessment
1	اختبار فصلى أول.	السابع	20%
2	اختبار شفهي لكل طالب على حدة في المحاضرة.	الثامن	5%
3	اختبار فصلى ثان.	الرابع عشر	20%
4	المشاركة والتفاعل مع الأستاذ.	طوال الفصل الدراسي	5%

5	اختبار نهائي تحريري	نهاية الفصل	50 %
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D. Student Academic Counseling and Support

1. Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice. (include amount of time teaching staff are expected to be available each week)
ساعة مكتيبة لكل شعبة على حدة – وتوزع الساعات التي يدرس فيها الأستاذ (وفق العبء التدريسي) .

E Learning Resources

4	1. النحو الوافي، عباس حسن - النحو الوافي مع ربطه بالأساليب الرفيعة والحياة اللغوية المتجددة - دار المعارف - الطبعة الثالثة - 4 مجلدات (2008 / 10 / 15) 2. الأخطاء الشائعة، محمد النجار (الناشر: دار الهداية للطباعة والنشر سنة الطبع: 1986م) 3. الفروق اللغوية لأبي هلال العسكري (الناشر: دار العلم والثقافة للنشر والتوزيع، القاهرة – مصر 14 نوفمبر 2010 م)
2. List Essential References Materials (Journals, Reports, etc.)	1. دوريات مجمع اللغة العربية بالقاهرة 2. مجلة فصول في اللغة والأدب
3. List Electronic Materials, Web Sites, Facebook, Twitter, etc.	1. موقع الكتاب العربي 2. المواقع الخاصة بالإعجاز البلاغي للقرآن ، والمعاجم اللغوية .
4. Other learning material such as computer-based programs/CD, professional standards or regulations and software.	برنامج المكتبة الشاملة : الجزء الخاص بالمهارات اللغوية العربية.

F. Facilities Required

Indicate requirements for the course including size of classrooms and laboratories (i.e. number of seats in classrooms and laboratories, extent of computer access, etc.)	
1. Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	2. حجرة لكل شعبة تناسب مع أعداد الطلاب المسجلين بها.
2. Technology resources (AV, data show, Smart Board, software, etc.)	جهاز عرض
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list)	

G Course Evaluation and Improvement Processes

1. Strategies for Obtaining Student Feedback on Effectiveness of Teaching	2.
2. Other Strategies for Evaluation of Teaching by the Instructor or by the Department	يطلب الأستاذ من الطلاب أن يأتي كل واحد منهم ببعض العبارات التي وقع فيها خطأ نحوي مما يلاحظونه من لوحات إعلانية في شوارع وأحياء مدنهم.
3. Processes for Improvement of Teaching	تعقد ثلاثة اجتماعات لمجموعة تدريس المادة في كل فصل دراسي: أولها في بداية الفصل، وثانيها في منتصف الفصل، وثالثها في نهاية الفصل، وتهدف هذه الاجتماعات إلى الوقوف على السلبيات وعلاجها وتطوير الأداء.
4. Processes for Verifying Standards of Student Achievement (e.g. check marking by an independent member teaching staff of a sample of student work, periodic exchange and remarking of tests or a sample of assignments with staff at another institution)	1. عمل دراسة مقارنة بين درجات طلاب كل شعبة عند الأستاذ الواحد. 2. النظر في العلاقة بين درجات الطلاب ونسبة حضور كل طالب في المادة. 3. النظر في العلاقة بين درجات الطلاب وموعد المحاضرة لكل شعبة.

5. Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement.

1. تعقد اللجنة التي تدرس المقرر اجتماعا في بداية كل فصل للنظر في المادة المطروحة للتدريس وحذف أو زيادة ما يناسب المقرر.
2. تبادل طرق العرض للمادة بين الأساتذة.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____

FORM (5): DESCRIPTION OF FIELD EXPERIENCE

FIELD EXPERIENCE SPECIFICATIONS



هيئة تقويم التعليم

Education Evaluation Commission

المركز الوطني للتقويم والاعتماد الأكاديمي

National Center for Academic Accreditation and Evaluation

T8. FIELD EXPERIENCE SPECIFICATION

491-CCS-0

Field Study

Field Experience Specifications

Institution: King Khalid University	Date of Report:
College: College of Computer Science	Department: Computer Science
Program: Bachelors in Computer Science	Track (if any):

A. Field Experience Course Identification and General Information

1. Field experience course title and code: 491--CCS-0 Summer Training		
2. Credit hours (if any): 0		
3. Level or year of the field experience. Third Year (Level 6)		
4. Dates and times allocation of field experience activities. a. Dates: Summer Vacation 6-8 weeks. Minimum 150 Hours during 6-8 weeks b. Times : 8:00 am to 5:00 pm (Choose by company supervisor/ student)		
5. List names, addresses, and contact information for all field experience locations.		
Name and Address of the Organization	Name of Contact Person	Contact Information (email address or mobile)
Organization name will be updated soon		

B. Learning Outcomes

Learning Outcomes for Field Experience in Domains of Learning, Assessment Methods and Teaching Strategy

Program Learning Outcomes, Assessment Methods, and Teaching Strategy work together and are aligned. They are joined together as one, coherent, unity that collectively articulate a consistent agreement between student learning and teaching.

The *National Qualification Framework* provides five learning domains. Learning outcomes are required in the first four domains and sometimes are also required in the Psychomotor Domain.

	NQF Learning Domains and Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	Knowledge		
1.1	Document technical skills useful daily	Hands on experience on skills learned	Reports of training supervisor once in two weeks
1.2	Outline all gained technical skills	Training on software tools or hardware equipment's	Present an outline of all skills in final presentation.
2.0	Cognitive Skills		
2.1	Develop Technical skills	Helps Choose the basic technical skills	Present all skills in final presentations
3.0	Interpersonal Skills & Responsibility		
3.1	Show the ability required in the real work environment	Illustrate interpersonal skills in actual work environment	Question the usefulness of interpersonal skills in actual work environment in the final presentation.
3.2	Demonstrate the personal skills to get knowledge from co-workers	Get trained by experienced colleagues	Discuss in final presentation

4.0	Communication, Information Technology, Numerical		
4.1	Learn to use new software tools , Hardware equipment	Acquire skills in new software hardware tools	Demonstrate the acquired knowledge new software/ Hardware in final presentation.
4.2	Analyze new emerging trends in the current industry	Acquire ability to predict the new developments	Discuss the present trends and focus of future developments of organization, in final presentation.
4.3	Develop an ability to communicate ideas in oral and written form	Group presentations	Group reports Group presentations

C. Description of Field Experience Activity

1. Describe the major student activities taking place during the field experience.

All students should complete summer training in a company and get trained in hardware, software and organizational management. The students are required to give a weekly progress report and a final progress report from the company and Coordination with the supervisor of the training company regarding the final evaluation during the training period and send it to make sure the department head. After completion of the training, each student should submit a Training report and give a presentation about the training for evaluation and grading

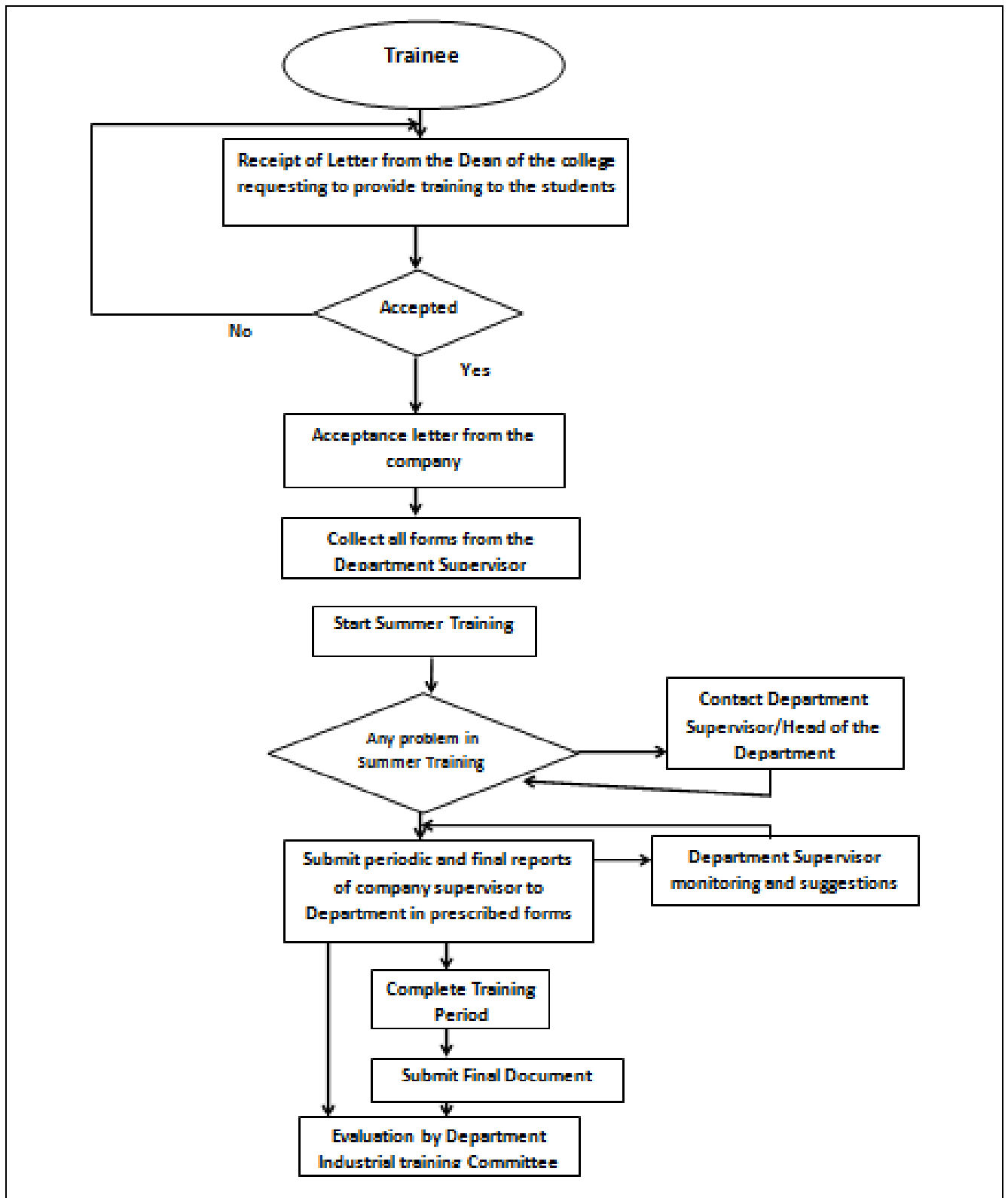
2. List required assignments, projects, and reports.

- a. Sending the first report/form after starting the training in first two or three days
- b. Writing and sending periodic reports in every two weeks (After 40 hours, 80 hours and 110 hours of training).
- c. Getting the final evaluation report from the training supervisor
- d. Writing the final report and presentation.
- e. Doing all assignments that required from organization

3. Follow up with students. What arrangements are made to collect student feedback?

- Via e-mail.
- Via mobile phone.
- Students Feedback take from weekly report and final report.

4. Insert a field experience flowchart for responsibility and decision-making (including a provision for conflict resolution).



5. Responsibilities.

	Student	Field Teaching Staff	Program Faculty and Teaching Staff	Department or College
Planning Activities				
a. Student activities.	√			
b. Learning experiences.	√			
c. Learning resources	√			
d. Field site preparations	√			
e. Student guidance and support	√	√	√	
Supervision Activities				
a. transport to and from site.	√			
b. Demonstrate learning outcome performance.	√			
c. Completion of required tasks, assignments, reports, and projects.	√	√		
d. Field site – safety.				
e. Student learning activities.				
b. Providing learning resources				
c. Administrative (attendance)				
Assessment Activities				
a. Student learning outcomes		√	√	
b. Field experience		√		
c. Field teaching staff		√		
d. Program faculty and teaching staff			√	
e. Field site		√		
f. Learning resources		√		

b. Explain the student assessment process.

No.	Evaluation topic	Marks
1	Weekly report	15%
2	Final evaluation (company)	35%
3	Final report	35%
4	Final presentation	15%
#	Total Marks	100%

c. Explain the resolution of differences process (If the field teaching staff and the program faculty and teaching staff share responsibility for student assessment, what process is followed for resolving differences between them?)

Not applicable since student assessment is done independently by Field supervisor and department supervisor.

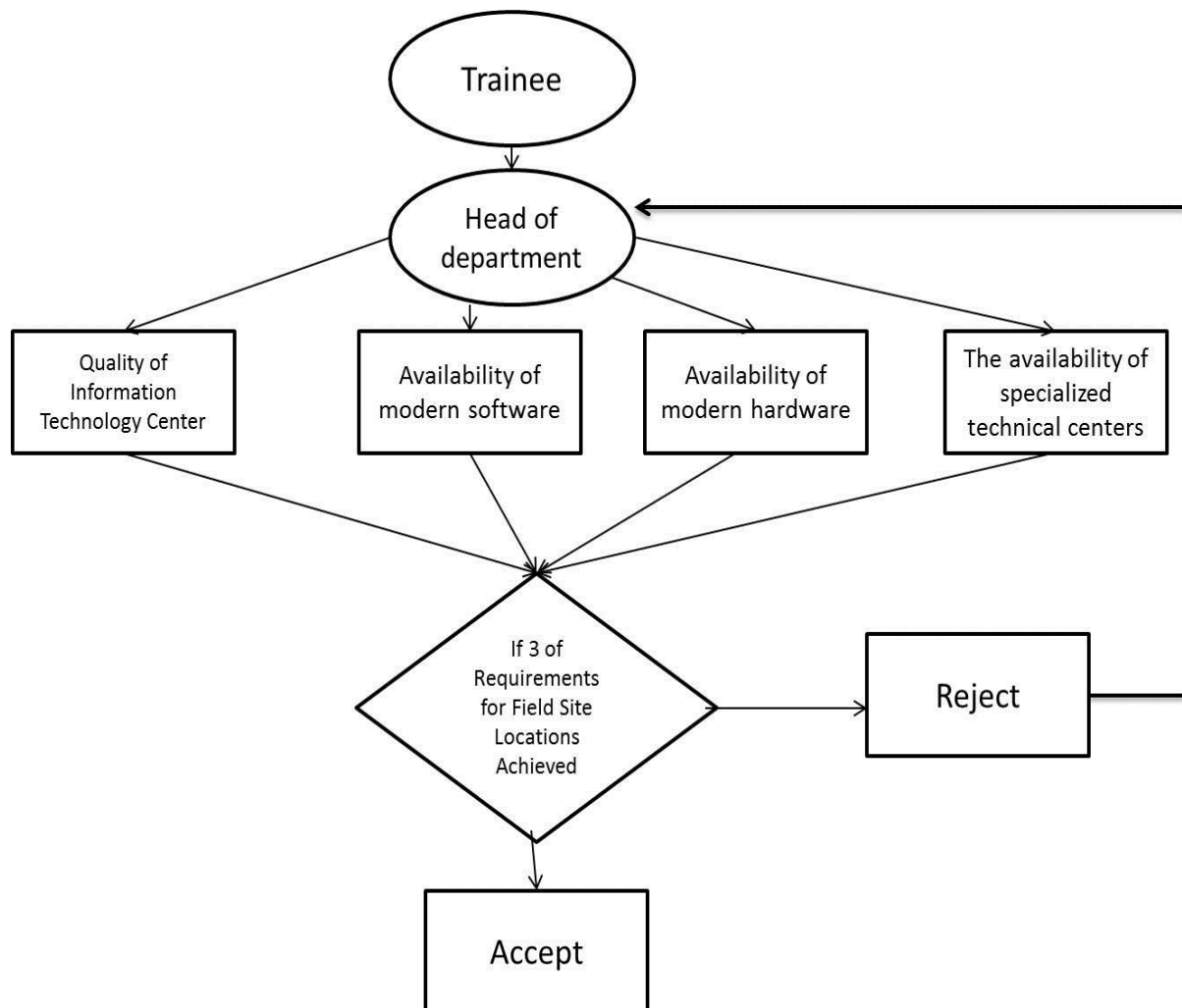
D Planning and Preparation

1. Identification of Field Locations

List Requirements for Field Site Locations (IT, equipment, labs, rooms, housing, learning resources, clinical)	List Safety Standards	List Specialized Criteria
a. Availability of Information center	Must be compatible with the standards of security followed by the ministry of communications and Information technology.	Must cover basic disciplines of Computer sciences
b. Availability of modern hardware	Must be compatible with the standards of security followed by the concerned ministry/ Authority.	Must provide latest hardware equipment / necessary hardware
c. Availability of modern software	Must be compatible with the standards of security followed by the concerned ministry/ Authority.	Must provide latest software/ necessary software.
d.		

e.		
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Explain the decision-making process used to determine appropriate field experience locations.



2. Identification of Field Staff and Supervisors

List Qualifications	List Responsibilities	List Training Required
a. Bachelor degree and above in Computer Science	<ul style="list-style-type: none"> Guide and Train students Send all progress reports of the student with assessment & evaluation 	Training related to computer science

Explain the decision-making process used to determine appropriate field staff and supervisors.

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3. Identification of Students

List Pre-Requisite Requirements	List Testing Requirements	List Special Training Required
a. Must complete 80 credit hours		
b.		
c.		
d.		

Explain the decision-making process used to determine that a student is prepared to enroll in field experience activities.

Must complete 79 credit hours
Student shouldn't enroll more than one course in summer semester

4. Safety and Risk Management.

List Insurance Requirements	List Potential Risks	List Safety Precautions Taken	List Safety Training Requirements
a. NA			
b.			
c.			
d.			

Explain the decision-making process used to protect and minimize safety risks.

Students are required to care themselves for safety

5. Resolution of Differences in Assessments. If supervising staff in the field location and faculty from the institution share responsibility for student assessment, what process is followed for resolving any differences between them?

E. Evaluation of the Field Experience

1. Describe the evaluation process and list recommendations for improvement of field experience activities by:

a. Students

Describe evaluation process

- Send a Weekly report.
- Doing a Final report.
- Doing a Final presentation.

b. Supervising staff in the field setting

Describe evaluation process

- Fill the evaluation forms.
- Fill in a questionnaire to assess the Summer Training.

c. Supervising faculty from the institution

Describe evaluation process

- Evaluating the weekly reports.
- Evaluating the final report.
- Evaluating the final presentation.

e. Others—(e.g. graduates, independent evaluator, etc.)

Describe evaluation process

- Doing a workshop describes the goals of training.
- Also describes the objective of training.
- Show the importance from training.

Name of Field Experience Coordinator: Dr Ghada

Signature: _____ Date Specification Completed: 1/3/2019

Program Coordinator: __Dr Yessine_____

Signature: _____ Date Received: __1/3/2019__