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. • **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	✓	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.

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**
Book1: Unit 1 - PEOPLE **Listening 1**: Introductions (Communication studies) **Listening 2**: Presentations about famous people (Celebrity studies) **Vocabulary**: Family, Jobs, Countries and nationalities **Grammar**: Personal pronouns, Possessive adjectives, The verb be **Speaking**: Introducing and starting a talk; Saying words and sentences in syllables; Tell your group about two famous people from your country.	1	4
Book1: Unit 2 - SEASONS **Listening 1**: A talk about three different places (Landscape architecture) **Listening 2**: Presentations about landscapes (Meteorology) **Vocabulary**: Months and seasons, Weather, Colors **Grammar**: There is and There are, Adjectives **Speaking**: Describing photographs; Word stress; Describe photographs of a landscape.	1	4
Book1: Unit 3- LIFESTYLE **Listening 1**: Three conversations about different lifestyles (Sociology) **Listening 2**: An interview (Anthropology) **Vocabulary**: Days of the week; Time expressions; Collocations for lifestyle (e.g. download apps, go to the gym, have dinner with friends) **Grammar**: The present simple **Speaking**: Asking and answering questions; Intonation in questions; Interview students for a survey	1	4
Book1: Unit 4 - PLACES **Listening 1**: Part of a geography seminar (Urban geography) **Listening 2**: A guided tour (Tourism geography)	1	4

Vocabulary: Vocabulary for places (e.g. bank, bridge, library, mosque); Prepositions of place **Grammar**: The imperative **Speaking**: Asking for and giving directions; Pronunciation of phrases		
Book1: Unit 5 - SPORT **Listening 1**: A university lecture about sport (Sports science) **Listening 2**: A student presentation about sport and exercise (Health sciences) **Vocabulary**: Vocabulary for sport; Sports collocations (e.g. play tennis, go swimming, do karate) **Grammar**: Comparative adjectives **Speaking**: Making comparisons and introducing a talk; Weak Vowel Sounds; Compare different kinds of sport and exercise.	1	4
First Progress Test (FPT)		
Book1: Unit 6 -JOBS **Listening 1**: A formal conversation asking for advice (Careers guidance) **Listening 2**: A job interview (Human resource management) **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 **Grammar**: have/has to **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	1	4
Book1: Unit 7- HOME AND BUILDINGS **Listening 1**: A radio interview (Demography) **Listening 2**: A discussion: ideas for a new building (Architecture) **Vocabulary**: Vocabulary for rooms; Adjectives for furniture (e.g. comfortable, wooden, glass) **Grammar:** should	1	4

Speaking: Asking for and giving opinions; Agreeing and disagreeing; Discuss ideas for a new building		
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	1	4
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.	1	4
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.	1	4
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)	1	4

Vocabulary: Vocabulary for places we live and work (e.g. pedestrian area, bus stop, cottage) **Grammar**: Review of the Past simple **Speaking**: Organize information for a presentation; Create a presentation for your classmates about an interesting place. Give factual information about the place you choose.		
Second Progress Test (SPT)		
Book 2: Unit 2: FESTIVALS AND CELEBRATIONS Listening 1: Three interviews about festivals in different countries (Social sciences) **Listening 2**: A talk about celebrations and food (Cultural studies) **Vocabulary**: Collocations (e.g. go to a concert, take a photograph, have a nice time) **Grammar**: Review of Present tense question forms **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.	1	4
Book 2: Unit 3: SCHOOL AND EDUCATION **Listening 1**: A guided tour of a university campus (University orientation) **Listening 2**: A discussion about learning with technology (Educational studies) **Vocabulary**: Collocations about learning (e.g. study Geography, learn Biology, teach French, revise History); Review of prepositional phrases **Grammar**: Basic verb patterns **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	1	4

classmates during the debate.		
Book 2: Unit 4: THE INTERNET AND TECHNOLOGY Listening 1: A student radio programme about robots (Sociology) Listening 2: A news report about how computers affect our memory (Psychology) **Vocabulary**: Technology (e.g. go online, wifi, the cloud) **Grammar**: can/be able to **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.	1	4
Book 2: Unit 5: LANGUAGE AND COMMUNICATION **Listening 1**: Different genres of listening (English language and linguistics) **Listening 2**: Presentation about sign language (Sign language and deaf studies) **Vocabulary**: Communication (e.g. pickup, learn, wave) **Grammar**: Imperative clauses; Verb patterns **Speaking**: Sequence instructions; Sequencing words to organize instructions; Plan and give a set of instructions	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
Book 1: Unit 1: PEOPLE **Reading 1**: Friendfile (Communication studies) **Reading 2**: A very tall man! (Anthropology **Vocabulary**: Family vocabulary (e.g. grandfather, grandmother, father, mother) **Grammar**: nouns and verbs; Singular and plural nouns; Grammar for writing: The verb *be;* Personal pronouns; Possessive determiners **Writing**: Academic writing skills: • Punctuation; Write descriptive sentences; Write about somebody in your family.	1	8
Book 1: Unit 2: SEASONS **Reading 1**: The coldest city in the world (Geography) **Reading 2**: Cuba weather (Meteorology) **Vocabulary**: Adjectives to describe the weather (e.g. warm, hot, cold, sunny) **Grammar**: Adjectives and nouns; noun phrases; Grammar for writing: Subject and verb; Prepositions; Prepositional phrases **Writing**: Academic writing skills: Punctuation- capital letters; Write facts; Write facts about the weather in your city.	1	8
Book 1: Unit 3: LIFESTYLE **Reading 1**: can you imagine your life with no mobile phones or TV? (Anthropology) **Reading 2**: Timetable (Management) **Vocabulary**: Vocabulary for study (e.g. Maths, History, Chemistry, Business) **Grammar**: Collocations; Grammar for writing: Subject – verb – object; Present simple; Time expressions **Writing:** Academic writing skills: Spelling third person singular forms; Write facts; Write facts about the lifestyle of a	1	8

student in your class		
Book 1: Unit 4: PLACES **Reading 1**: A world history of maps (History) **Reading 2**: The Maldives: an overview (Geography) **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) **Grammar**: Noun phrases with of; Grammar for writing: there is / there are; determiners: articles **Writing**: Academic writing skills: Spelling and punctuation: capital letters; Write facts; Write facts about your country	1	8
Book 1: Unit 5: SPORT **Reading 1**: The world's top five favorite sports (Sports studies) **Reading 2**: Sport in brazil (cultural studies) **Vocabulary**: Adjectives to describe sports (e.g. hard, exciting, expensive, difficult) **Grammar**: Sports collocations; Prepositions; Adjectives Grammar for writing: Subject – verb – adjective; Subject – verb – adverb **Writing**: Academic writing skills: Commas; Write facts; Write facts about a popular sport in your country.	1	8
First Progress Test (FPT)		
Book 1: Unit 6: JOBS **Reading 1**: Find_my_job.com (business and management) **Reading 2**: Job emails (business and management) **Vocabulary**: Vocabulary for jobs (e.g. vet, fireman, manages people, prepares food) **Grammar**: Adjective phrases; Grammar for writing: must and have to; Joining sentence with *and* **Writing**: Academic writing skills: Contractions; Write	1	8

sentences; Write a description of a job for a friend.		
Book 1: Unit 7: HOMES AND BUILDINGS **Reading 1**: Architect's world expert interview (Architecture) **Reading 2**: Skyscrapers (Architecture) **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) **Grammar**: Grammar for writing: Comparing quantities; Comparative adjectives; Joining sentences with *but* **Writing**: Academic writing skills: Spelling: double consonants; Write a comparison; Write a comparison of two buildings	1	8
Book 1: Unit 8: FOOD AND CULTURE **Reading 1**: Tea: A world history (History) **Reading 2**: Ten of the best by cuisine (Hospitality management) **Vocabulary**: Vocabulary for food and drink (e.g. potatoes, coconut, yoghurt, water) **Grammar**: Countable and uncountable nouns; Grammar for writing: Subject–verb agreement; determiners: *a, an* and *some* **Writing**: Academic writing skills: Spelling; Write descriptive sentences; Write about food in your country for a student website	1	8
Book 1: Unit 9: THE ANIMAL KINGDOM **Reading 1**: Variety in the animal kingdom (Zoology) **Reading 2**: The world's fastest hunters (Zoology) **Vocabulary**: Vocabulary to describe facts about animals (e.g. long, high, weighs, habitat); Vocabulary for animals (e.g. harmless, endangered, deadliest, nocturnal) **Grammar**: Can and Cannot; Grammar for writing:	1	8

Superlative adjectives **Writing**: Academic writing skills: Spelling; Write a descriptive paragraph; Write a paragraph about an animal		
Book 1: Unit 10: **TRANSPORTATION** **Reading 1**: Transport survey(Transport and logistics) **Reading 2**: Transport in Bangkok: report (Urban planning) **Vocabulary**: Transport collocations (e.g. take the bus, travel by car) **Grammar**: Quantifiers; Grammar for writing: Subject – verb – object; Linking sentences with pronouns **Writing**: Academic writing skills: error correction; Write a paragraph; Write a paragraph about transport in your city	1	8
Book 2: Unit 1: PLACES **Reading 1**: Rise of the megacities (Geography) **Reading 2**: Homestay holidays (Travel and Tourism) **Vocabulary**: Vocabulary to describe places (e.g. exciting, interesting, polluted, noisy, boring) **Grammar**: Nouns, verbs and adjectives; Grammar for writing: Sentence structure 1: subject + verb; T*here is/There are* **Writing**: Academic writing skills: capital letters and full stops; Write descriptive sentences; describe the place where you live. Write about the positives and negatives.	1	8
Second Progress Test (SPT)		
Book 2: Unit 2: FESTIVALS AND CELEBRATION **Reading 1**: Celebrate! (Sociology) **Reading 2**: Muscat Festival (Cultural Studies) **Vocabulary**: Vocabulary to describe festivals (e.g. lucky, culture, traditional, history, highlights) **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	1	8

Writing: Academic writing skills: Paragraph organization 1: organizing sentences into a paragraph; Write a descriptive paragraph; describe a festival or special event		
Book 2: Unit 3: SCHOOLS AND EDUCATION **Reading** 1: La Masia: the best footballers in the world (education) **Reading** 2: My Princeford experience (education) **Vocabulary**: Vocabulary to describe education (e.g. a principal, a lecturer, a lab, a graduate, an office) **Grammar**: Education nouns; Plural nouns; Grammar for writing: Subject pronouns; *because* and *so* **Writing**: Academic writing skills: Paragraph organization 2: topic and supporting sentences; Write a descriptive paragraph. Writing task; describe your education	1	8
Book 2: Unit 4: THE INTERNET AND TECHNOLOGY **Reading 1**: Someone's always watching you online ... (Information Technology) **Reading 2**: Video games (Information Technology) **Vocabulary**: Vocabulary to describe the internet and technology (e.g.an online game, a computer program, a chat room, internet banking, a smartphone) **Grammar**: Compound nouns; Giving opinions; Grammar for writing: a*nd, als*o and *too*; *but* and *however* **Writing**: Academic writing skills: Topic sentences; Write a one-sided opinion paragraph; The internet has made our lives better. Do you agree or disagree?	1	8
Book 2: Unit 5: LANGUAGE AND COMMUNICATION **Reading 1**: Writing systems (Linguistics) **Reading 2**: Language change: a study guide (Linguistics) **Vocabulary**: Vocabulary to describe language and	1	8

communication (e.g. sign, symbol, information, money, word) **Grammar**: Countable and uncountable nouns; Articles: *a, an* or *no* article; Grammar for writing: Quantifiers: *some*, *many*, *a lot of, a few, a little* **Writing**: Academic writing skills: Supporting sentences; Giving examples: *like, such as* and *for example;* 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.		
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**		
	• 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.	• 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;	• Homework Assignments; • Quizzes; • Class Tests; • Online (Blackboard) assignments, blogs, discussion forums; e-quizzes; • First/ Second Progress Tests; • Final examination.
2.0	**Cognitive Skills**		
	• 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	• 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);	• Homework Assignments; • Quizzes; • Class Tests; • Online (Blackboard) assignments, blogs, discussion forums; e-quizzes; • Speaking & Writing Projects;

	such as where they live, people they know and things they have. • 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.	• Activity-based teaching; • Free, Guided, and Controlled Writing Strategies.	• First/ Second Progress Tests; • Final examination.
3.0	**Interpersonal Skills & Responsibility**		
	• 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.	• Pair Activity. • The Buzz group activity • Role play activity; • In-class discussion among students • students presentations and free writing strategy	• 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**		
	• Express opinions and ideas in everyday situations.	• Group activity • Role play activity	• Student presentation

	• 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.	• 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.	• 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%	50 %
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.

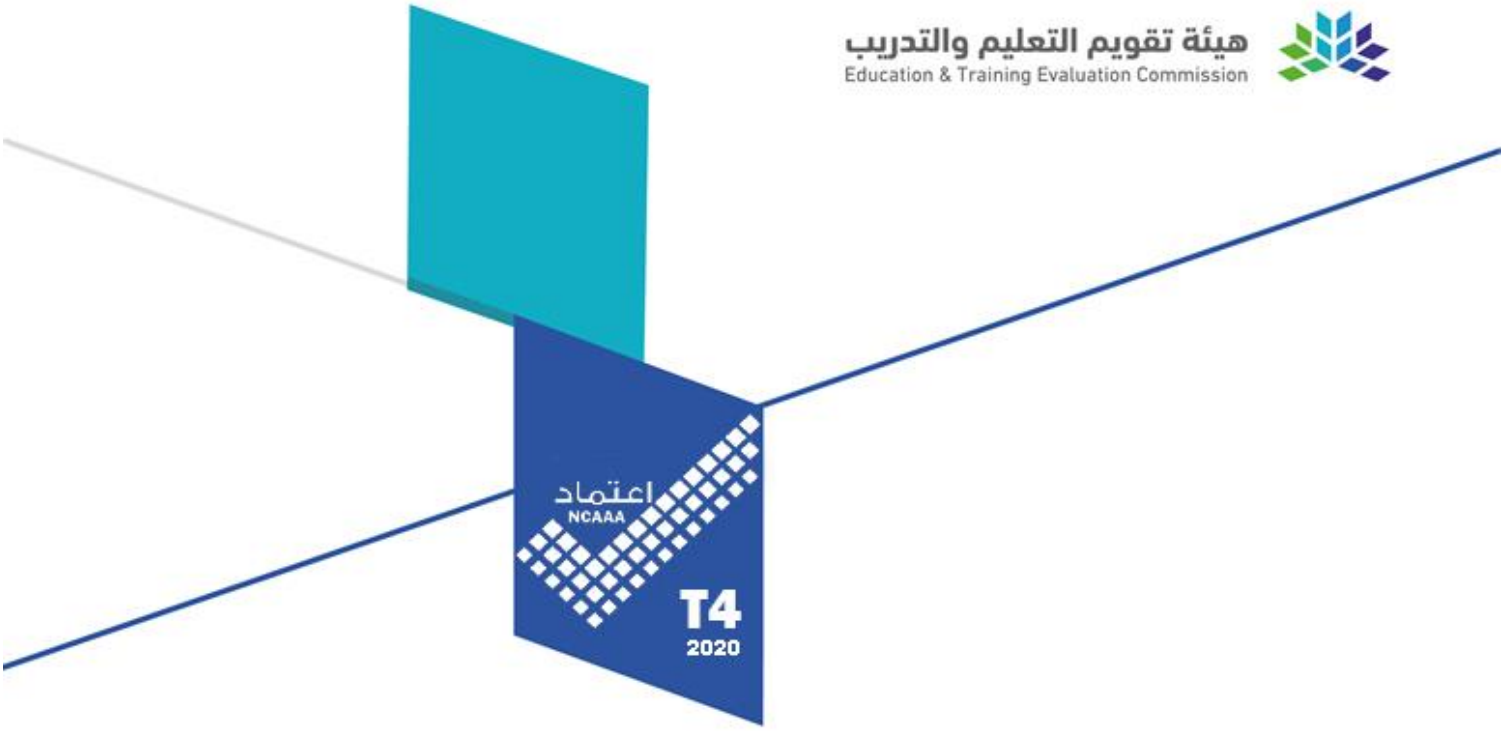
G. Course Evaluation and Improvement Processes

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:_____



توصيف المقرر الدراسي

اسم المقرر:	مدخل إلى الثقافة الإسلامية (١)
رمز المقرر:	**١١١ سلم-٢**
البرنامج:	**متطلب عام**
القسم العلمي:	**الدراسات الإسلامية**
الكلية:	**الشريعة وأصول الدين**
المؤسسة:	**جامعة الملك خالد**

تمت الموافقة عليه بقرار مجلس الكلية رقم ١١/١٦٤٢ في محضر مجلس الكلية السادس بتأريخ ٧ / ٥ / ١٤٤٢ هـ

المحتويات

أ. التعريف بالمقرر الدراسي: ٣

ب- هدف المقرر ومخرجاته التعليمية: ٣

١. الوصف العام للمقرر: ٣

٢. الهدف الرئيس للمقرر ٣

٣. مخرجات التعلم للمقرر: ٣

ج. موضوعات المقرر ٤

د. التدريس والتقييم: ٤

١. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم ٤

٢. أنشطة تقييم الطلبة ٦

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي: ٦

و – مصادر التعلم والمرافق: ٦

١. قائمة مصادر التعلم: ٦

٢. المرافق والتجهيزات المطلوبة: ٦

ز. تقويم جودة المقرر: ٦

ح. اعتماد التوصيف ٧

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة: ثلاث ساعات
٢. نوع المقرر أ. متطلب جامعة [√] متطلب كلية [ ] متطلب قسم [ ] أخرى [ ] ب. إجباري [√] اختياري [ ]
٣. السنة / المستوى الذي يقدم فيه المقرر : المستوى الأول.
٤. المتطلبات السابقة لهذا المقرر (إن وجدت) **لا يوجد**
٥. المتطلبات المتزامنة مع هذا المقرر (إن وجدت) **لا يوجد**

٦. نمط الدراسة (اختر كل ما ينطبق)

م	نمط الدراسة	عدد الساعات التدريسية	النسبة
1	المحاضرات التقليدية	—	—
2	التعليم المدمج	—	—
3	التعليم الإلكتروني	(√) كامل	%١٠٠
4	التعليم عن بعد	—	—
5	أخرى	—	—

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات	٢
٢	معمل أو استوديو	١
٣	دروس إضافية	١
٤	أخرى (تذكر)	-
	الإجمالي	٤

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

يقدم محتوى المقرر صورة واضحة أمام الطالب / بة توضح المفهوم العام للثقافة الاسلامية ، وسماتها ، وخصائصها ، وتكشف مفهوم التوحيد وأقسامه والشرك وأقسامه وصوراً من الشرك الأصغر مستندة إلى الدليل على كل منها مع بيان مفهوم العقيدة الإسلامية وأركانها الستة ودليل كل ركن ،وأبرز المسائل المتعلقة بباب الإيمان ، ويختتم المحتوى بالحديث عن البدعة وصورها وأقسامها وبيان موقف الاسلام منها .

٢. الهدف الرئيس للمقرر

١. رسوخ العقيدة الصحيحة المستمدة من الكتاب والسنة في نفوس الطلبة.

٢. إلمام الطالب بأصول الإيمان الستة.

٣. - إدراك الطالب ما ينافي الإيمان أو كماله، والوقاية منها.

٣. مخرجات التعلم للمقرر:

مخرجات التعلم للمقرر		رمز مخرج التعلم المرتبط للبرنامج
مخرجات التعلم للمقرر **من المتوقع من الطالب بعد دراسة هذا المقرر أن يكون قادرا على:**		رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	**التعرف على مفهوم الثقافة وخصائصها .**	
1.2	**الإلمام بأصول الإيمان وأدلتها .**	
1.3	**التعرف على البدع وأحكامها وما يناقض الإيمان، وأحكام أهل المعاصي إجمالاً.**	

مخرجات التعلم للمقرر		رمز مخرج التعلم المرتبط للبرنامج
مخرجات التعلم للمقرر من المتوقع من الطالب بعد دراسة هذا المقرر أن يكون قادرا على:		رمز مخرج التعلم المرتبط للبرنامج
2	المهارات	
2.1	- استشعار الطالب لعظمة الخالق تبارك وتعالى ودعاؤه بأسمائه وصفاته.	
2.2	- حصول السعادة والراحة النفسية بمعرفة أصول الإيمان.	
2.3	- قدرة الطالب على مناقشة أهل البدع ودحض شبههم بالأدلة والبراهين.	
3	القيم	
3.1	- الاتصال الفاعل والمؤثر من خلال نشر العقيدة الإسلامية للآخرين.	
3.2	- القدرة على الحوار مع الآخرين بالآداب الشرعية.	
3.3	امتلاك مهارة النقد للأفكار الفاسدة وهدمها .	
3.4	استيعاب الثقافات المعاصرة وتقويمها في ضوء المنهج الرباني	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	= تعريف الثقافة وخصائصها، وتوضيح معنى العقيدة، والدعوة إلى العقيدة، وأصول العقيدة.	٢
٢	= توحيد الربوبية والألوهية ومعناهما والعلاقة بينهما = أساليب القرآن في الدعوة إلى توحيد الألوهية، وصور الشرك وخطره.	٢
٣	= الوسائل الفعلية والقولية المفضية إلى الشرك، وبيان أنواع من الشرك الأكبر، الشرك في الخوف، وفي التوكل، وفي المحبة وفي الطاعة. = أمور يفعلها بعض الناس وهي من الشرك أو من وسائله، وتعريف الشرك الأصغر وأنواعه وأحكامه.	٤
٤	= بيان ألفاظ لا يجوز أن تقال في حق الله تعالى تعظيماً لشأنه، ومعنى توحيد الأسماء والصفات. = وجوب احترام أسماء الله وصفاته، ومنهج أهل السنة والجماعة في ذلك، والرد على المخالفين +اختبار أعمال الفصل١	٢
٥	= الإيمان بالملائكة، وأعمالهم، وكذلك الإيمان بالكتب، وموقف القرآن من الكتب السابقة = الإيمان بالرسل، ودلائل النبوة، وبيان أن دين الأنبياء واحد.	٢
٦	= الإيمان باليوم الآخر، وأشراط الساعة، والإيمان بما يكون بعد الموت من عذاب القبر ونعيمه، والبعث والنشور، والجنة والنار.	٢
٧	= الإيمان بالقضاء والقدر، وأثره في عقيدة المسلم، مع بيان نواقض الإيمان إجمالاً. =	٢
٨	+ التعامل مع غير المسلمين ومسألة تقارب الأديان = حكم أهل المعاصي، وعلاقة ذلك بقضية التكفير.	٢
٩	= تعريف البدعة، وأنواعها، وأحكامها، وأسباب ظهور البدع في حياة المسلمين +اختبار أعمال الفصل٢	٢
١٠	= موقف الأمة الإسلامية من المبتدعة، ومنهج أهل السنة والجماعة في الرد عليهم، مع نماذج من البدع المعاصرة.	
المجموع		٢٠

د. التدريس والتقييم:

١. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1.0	المعرفة والفهم		
1.1	- التعرف على مفهوم الثقافة وخصائصها .	١- الفصول الافتراضية. ٢- الحوار والمناقشة.	١- الاختبار التحريري ٢- تقييم الأقران
1.2	- استيعاب أصول الإيمان بالتفصيل .		

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1.3	- التعرف على البدع وأحكامها وما يناقض الإيمان، وأحكام أهل المعاصي إجمالاً.	٣- العروض التقديمية.	٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
2.0	المهارات		
2.1	ـ استشعار الطالب لعظمة الخالق تبارك وتعالى ودعاؤه بأسمائه وصفاته.	١- الحوار والمناقشة ٢- التمارين والواجبات ٣- التطبيق العملي ٤- التعلم التعاوني ٥- ضرب الأمثلة والشواهد ٦- دراسة حالة أو مشكلة ٧- تحليل النصوص.	١- الاختبار التحريري. ٢- تقييم البحوث ٣- الاختبار العملي ٤- تقييم الأقران ٥- تقييم التمارين والواجبات ٦- الملاحظة والتقييم
2.2	ـ حصول السعادة والراحة النفسية بمعرفة أصول الإيمان.		
2.3	ـ قدرة الطالب على مناقشة أهل البدع ودحض شبههم بالأدلة والبراهين.		
3.0	القيم		
3.1	- الاتصال الفاعل والمؤثر من خلال نشر العقيدة الإسلامية للآخرين.	١- الفصول الافتراضية. ٢- الحوار والمناقشة. ٣- العروض التقديمية.	٦- الاختبار التحريري ٧- تقييم الأقران ٨- تقييم البحوث ٩- تقييم الواجبات ١٠- تقييم العروض ٦- الملاحظة والتقييم
3.2	- القدرة على الحوار مع الآخرين بالآداب الشرعية.	١- الفصول الافتراضية. ٢- الحوار والمناقشة. ٣- العروض التقديمية. .	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
3.3	امتلاك مهارة النقد للأفكار الفاسدة وهدمها .	١- الفصول الافتراضية. ٢- الحوار والمناقشة. ٣- العروض التقديمية.	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
3.4	استيعاب الثقافات المعاصرة وتقويمها في ضوء المنهج الرباني	١- الفصول الافتراضية. ٢- الحوار والمناقشة. ٣- العروض التقديمية.	١- الاختبار التحريري ٢- تقييم البحوث ٣- تقييم الواجبات ٤- تقييم العروض ٦- الملاحظة والتقييم
3.5	الوسطية والاعتدال	١- الفصول الافتراضية. ٢- الحوار والمناقشة. ٣- العروض التقديمية.	١- الاختبار التحريري ٢- تقييم البحوث ٣- تقييم الواجبات ٤- تقييم العروض ٦- الملاحظة والتقييم

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	واجبات عدد (٨)	مستمر طوال الفصل	%٤٠
٢	منتديات عدد (٢)	الأسبوع (٤) و (٨)	%١٠
	اختبارات قصيرة عدد (٢)	الأسبوع (١٠)	%٢٠
٣	اختبار نهائي	الأسبوع (١٤)	%٣٠

أنشطة التقييم (اختبار تحريري، شفهي، عرض تقديمي، مشروع جماعي، ورقة عمل الخ)

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- يلتزم الأستاذ بالتواجد في مكتبه (١٠) ساعات أسبوعياً يقدم خلالها الدعم والإرشاد اللازم للطلاب.
- يوجد وحدة خاصة بالإرشاد الأكاديمي تتولى إرشاد الطلاب وتوجيههم أكاديمياً.
- يتم توزيع الطلاب على أعضاء هيئة التدريس لتقديم الإرشاد الفردي.

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	**الإرشاد إلى صحيح الاعتقاد، الفوزان.**
المراجع المساندة	**- الثقافة الإسلامية تخصصا ومادة وقسما علميا – مجموعة من المختصين – جامعة الإمام محمد بن سعود الإسلامية .** **- التكفير وضوابطه – د. إبراهيم الرحيلي- دار الإمام احمد.** **- أصول الحوار وآدابه– الشيخ صالح بن حميد.** **- حقوق غير المسلمين في بلاد الإسلام – صالح العابر – وكالة المطبوعات والبحث العلمي بوزارة الشؤون الإسلامية ١٤٢٩**
المصادر الإلكترونية	**-موقع الجمعية العلمية السعودية لعلوم العقيدة والأديان والفرق والمذاهب.** **-محتوى مرفوع على البلاك بورد.**
أخرى	.....

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعة دراسية تتسع لـ(٤٠) طالباً فما فوق ، مجهزة بشاشة عرض .
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	توفير الوسائل التعليمية المتنوعة (سبورة ذكية ، جهاز عرض، حاسب آلي ومستلزماته).
تجهيزات أخرى (تبعاً لطبيعة التخصص)	دائرة تلفزيونية مغلقة إذا كانت المحاضرة خاصة بالطالبات .

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	الطلاب المراجع النظير	- استبانات تقييم الطلاب للمقرر - مقابلات مع الطلاب. - تقرير المقرر. - تقرير المراجع النظير
فاعلية طرق تقييم الطلاب	الطلاب قيادات البرنامج	- تقويم النظير. - تقرير المراجع المستقل.

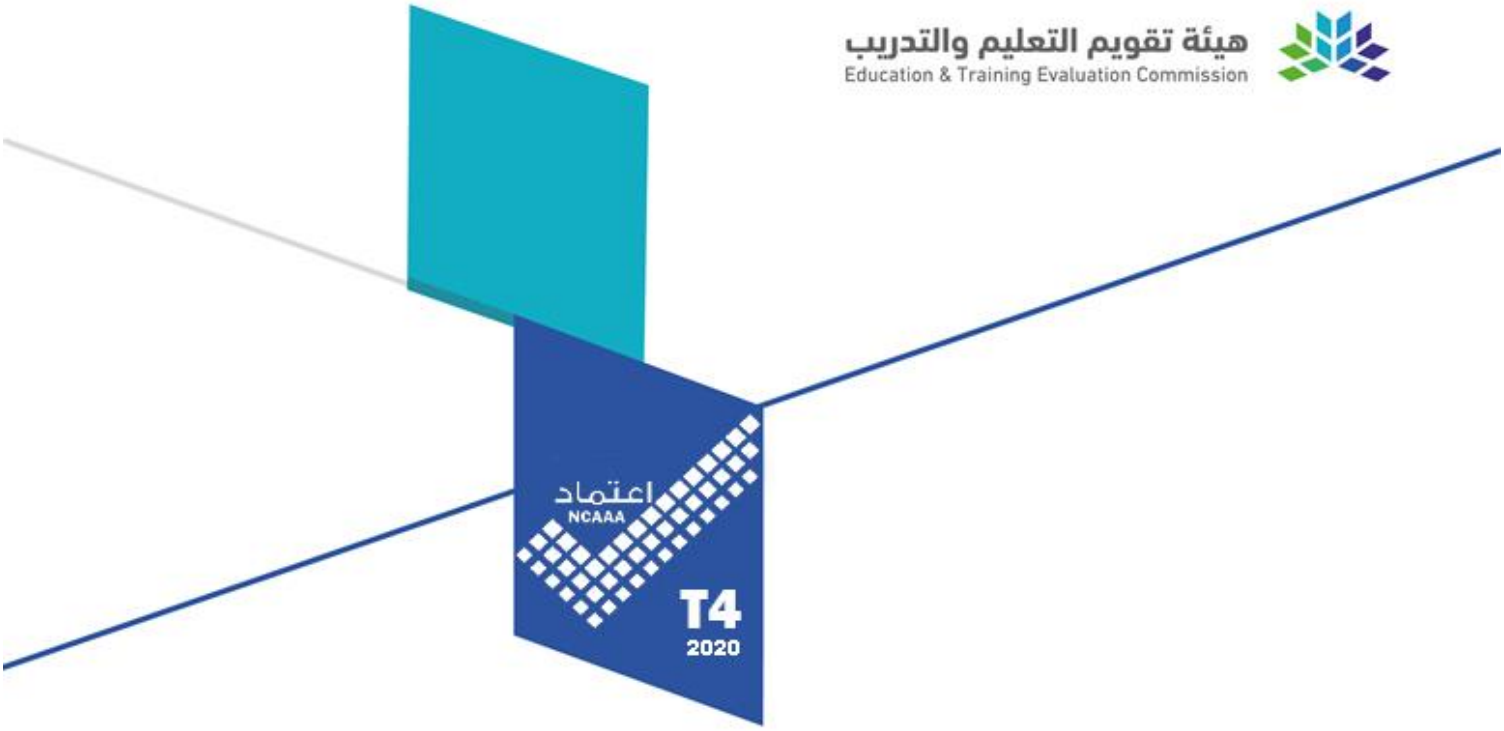
مجالات التقويم	المقيمون	طرق التقييم
	المراجع النظير أعضاء هيئة التدريس. المراجع المستقل.	ـ استطلاع آراء الطلاب . ـ تقرير المقرر. ـ حلقات نقاش حول عملية التدريس.
مدى تحصيل مخرجات التعلم للمقرر	الطلاب. أعضاء هيئة التدريس. قيادات البرنامج. المراجع النظير. المراجع المستقل.	ـ استطلاع آراء الطلاب . ـ مقابلات مع الطلاب. ـ تقرير قيادات البرنامج. ـ مقابلات مع أعضاء هيئة التدريس. ـ تقرير المراجع المستقل. ـ تقرير المراجع النظير. ـ تقرير المقرر.
مصادر التعلم	الطلاب. أعضاء هيئة التدريس. قيادات البرنامج. المراجع النظير. المراجع المستقل.	ـ استطلاع آراء الطلاب . ـ مقابلات مع الطلاب. ـ تقرير قيادات البرنامج. ـ مقابلات مع أعضاء هيئة التدريس. ـ تقرير المراجع المستقل. ـ تقرير المراجع النظير. ـ تقرير المقرر.
فاعلية التدريس	الطلاب **المراجع النظير**	ـ استبانات تقييم الطلاب للمقرر ـ مقابلات مع الطلاب. ـ تقرير المقرر. ـ تقرير المراجع النظير
فاعلية طرق تقييم الطلاب	الطلاب قيادات البرنامج المراجع النظير أعضاء هيئة التدريس. المراجع المستقل.	ـ تقويم النظير. ـ تقرير المراجع المستقل. ـ استطلاع آراء الطلاب . ـ تقرير المقرر. ـ حلقات نقاش حول عملية التدريس.
مدى تحصيل مخرجات التعلم للمقرر	الطلاب. أعضاء هيئة التدريس. قيادات البرنامج. المراجع النظير. المراجع المستقل.	ـ استطلاع آراء الطلاب . ـ مقابلات مع الطلاب. ـ تقرير قيادات البرنامج. ـ مقابلات مع أعضاء هيئة التدريس. ـ تقرير المراجع المستقل. ـ تقرير المراجع النظير. ـ تقرير المقرر.

مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلاب، مدى تحصيل مخرجات التعلم للمقرر، مصادر التعلم ... إلخ)
المقيمون (الطلبة، أعضاء هيئة التدريس، قيادات البرنامج، المراجع النظير، أخرى (يتم تحديدها)
طرق التقييم (مباشر وغير مباشر)

ح. اعتماد التوصيف

جهة الاعتماد	مجلس قسم الدراسات الإسلامية

رقم الجلسة	الخامسة (٥)
تاريخ الجلسة	١٤٤٢/٥/٧هـ



توصيف المقرر الدراسي

اسم المقرر:	الثقافة الإسلامية (٢)
رمز المقرر:	١١٢ سلم٢
البرنامج:	متطلب عام
القسم العلمي:	الدراسات الإسلامية
الكلية:	الشريعة وأصول الدين
المؤسسة:	جامعة الملك خالد

تمت الموافقة عليه بقرار مجلس الكلية رقم ١٦٤٢/ ١١في محضر مجلس الكلية السادس بتأريخ ٧ / ٦ / ١٤٤٢ هـ

المحتويات

أ. التعريف بالمقرر الدراسي: ٣

ب- هدف المقرر ومخرجاته التعليمية: ٣

١. الوصف العام للمقرر: ٣

٢. الهدف الرئيس للمقرر ٣

٣. مخرجات التعلم للمقرر: ٣

ج. موضوعات المقرر ٤

د. التدريس والتقييم: ٥

١. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم ٥

٢. أنشطة تقييم الطلبة ٦

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي: ٧

و – مصادر التعلم والمرافق: ٧

١. قائمة مصادر التعلم: ٧

٢. المرافق والتجهيزات المطلوبة: ٧

ز. تقويم جودة المقرر: ٧

ح. اعتماد التوصيف ٨

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة: ثلاث ساعات

٢. نوع المقرر

أ. متطلب جامعة [√] متطلب كلية [ ] متطلب قسم [ ] أخرى [ ]

ب. إجباري [√] اختياري [ ]

٣. السنة / المستوى الذي يقدم فيه المقرر

المستوى الثاني

٤. المتطلبات السابقة لهذا المقرر (إن وجدت)

لا يوجد

٥. المتطلبات المتزامنة مع هذا المقرر (إن وجدت)

لا يوجد

٦. نمط الدراسة (اختر كل ما ينطبق)

م	نمط الدراسة	عدد الساعات التدريسية	النسبة
1	المحاضرات التقليدية	—	—
2	التعليم المدمج	—	—
3	التعليم الإلكتروني	(√) كامل	%١٠٠
4	التعليم عن بعد	—	—
5	أخرى	—	—

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات	٢
٢	معمل أو إستوديو	١
٣	دروس إضافية	١
٤	أخرى (تذكر)	-
	الإجمالي	٤

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

يشتمل المقرر على محتوى يتضمن تعريف الطالب / بة بمفهوم حقوق الإنسان في الشريعة الإسلامية والنظم الوضعية على اختلاف توجهاتها ، وكذلك تعريف الطالب بحقوق ولاة الأمر في الشريعة الإسلامية ، وتعريفه بمزايا النظام الإسلامي وخصائصه .

٢. الهدف الرئيس للمقرر

١- التعرف على الآثار المترتبة على تطبيق النظام الاسلامي على حياة الأفراد والمجتمعات .

٢- الإلمام بحقوق ولاة الامر في الشريعة الاسلامية .

٣- التعرف على حقوق الانسان في الشريعة الإسلامية والنظم الوضعية .

٤- التعرف على مزايا الاقتصاد الاسلامي .

٥- التعرف على خصائص النظام الاقتصادي الاسلامي وما يضمنه للامة من التقدم والتنمية.

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	المعرفة والفهم	
1.1	معرفة المقصود بمفهوم الدولة في الاسلام وغايتها، وأركانها .	
1.2	فهم مبادئ الحكم العامة في الاسلام والسلطات الثلاث في الدولة .	

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1.3	الإلمام بمعرفة حقوق ولاة الأمر وواجباتهم والعلاقة بين المسلمين وغيرهم وأحكام أهل الذمة في بلاد المسلمين ومعرفة مفهوم الاقتصاد الاسلامي وخصائصه وأهدافه واركانه وتاريخ المصارف والمعاملات المصرفية والتأمين وأقسامه دراسة موجزة بعيدة عن التفصيل الفقهي	
2	المهارات	
2.1	- القدرة على معرفة النظام السياسي ولاقتصادي في الإسلام-	
2.2	- تطبيق حقوق ولاة الامر -الفهم الصحيح لحقوق الإنسان ،ومقارنة حقوق الإنسان في الإسلام بحقوقه في النظم الوضعية .	
2.3	- إدراك العلاقة بين المسلمين وغيرهم ،ومقارنة هذه العلاقة بما لدي الآخرين و مقارنة النظام الاقتصادي في الإسلام بغيره من النظم .	
2.4	- القدرة على معرفة النظام السياسي ولاقتصادي في الإسلام-	
3	القيم	
3.1	يستطيع الطالب أن يعرف كيف يتعامل مع ولاة الأمر، ومع غير المسلمين المقيمين في بلاد المسلمين .	
3.2	يمتلك الطالب فقه المعاملات والموقف من معاملات البنوك والتأمين .	
3.3	يتمكن الطالب من الإسهام في حل بعض المشكلات الفقهية المعاصرة .	
3.4	يقدر الطالب على عرض المنهج الإسلامي فيما يواجه المسلمين من مشكلات في المجتمعات غير الإسلامية .	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	مقدمة :تعريف بالمقرر أولا:الجانب السياسي: ١- مزايا النظام السياسي في الإسلام . ٢- مفهوم الدولة في النظام السياسي في الإسلام . ٣- أركان الدولة في النظام السياسي في الإسلام.	٢
٢	قواعد النظام السياسي في الإسلام(الشورى العدل المساواة الحرية) السلطات الثلاثة في الدولة: (١) السلطة التنظيمية أو التشريعية . (٢) السلطة القضائية . (٣) السلطة التنفيذية .	٢
٣	من مظاهر تطبيق الإسلام في المملكة العربية السعودية (النظام الأساسي للحكم – الشورى – القضاء – التعليم –) .	٢
٤	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 والادلة على ذلك- حق النصح لولاة الأمر والأدلة على ذلك- كيفية النصيحة لولاة الأمر والادلة على ذلك. واجبات ولي الأمر في النظام السياسي في الإسلام	٢
٥	التعريف بحقوق الإنسان في الإسلام وأهميتها مصادر الحق بين الإسلام والنظم الوضعية حقوق الإنسان في الإسلام. حدودها وضوابطها وخصائصها. المقارنة بين المفهوم الإسلامي والمفهوم الغربي لحقوق الإنسان.	٢
٦	حقوق أهل الذمة والمستأمنين وغيرهم من المقيمين في الدولة في النظام السياسي في الإسلام	٢

	الأصل في علاقة المسلمين بغير المسلمين في الشريعة الإسلامية .	
٧	مفاهيم معاصرة في ضوء الإسلام.(الديمقراطية- حقوق الإنسان)	٢
٨	ثانيا:الجانب الاقتصادي : ١- مفهوم الاقتصاد الإسلامي ٢- خصائص النظام الاقتصادي الإسلامي ٣- أهداف النظام الاقتصادي الإسلامي	٢
٩	الأركان الأساسية في النظام الاقتصادي: - الملكية المزدوجة الخاصة والعامة. - الحرية الاقتصادية المقيدة. - التكافل الاجتماعي الاقتصادي.	٢
١٠	المصارف تاريخها وأقسامها. التأمين وأقسامه.	٢
	المجموع	٢٠

د. التدريس والتقييم:

١. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1.0	المعرفة والفهم		
1.1	- معرفة مفهوم الدولة في الاسلام وغايتها، وأركانها، ومبادئ الحكم العامة في الاسلام والسلطات الثلاث في الدولة، وحقوق ولاة الأمر وواجباتهم .	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
1.2	- معرفة العلاقة بين المسلمين وغيرهم واحكام أهل الذمة في بلاد المسلمين	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
1.3	- فهم مفهوم الاقتصاد الاسلامي وخصائصه وأهدافه واركانه وتاريخ المصارف والمعاملات المصرفية والتأمين وأقسامه دراسة موجزة بعيدة عن التفصيل الفقهي...	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم البحوث ٣- تقييم الواجبات ٤- تقييم العروض ٦- الملاحظة والتقييم
2.0	المهارات		
2.1	- القدرة على معرفة النظام السياسي ولاقتصادي في الإسلام , تطبيق حقوق ولاة الامر .	١- البحوث القصيرة ٢- الحوار والمناقشة ٣- التمارين والواجبات ٤- التطبيق العملي ٥- التعلم التعاوني ٦- ضرب الأمثلة والشواهد ٧- دراسة حالة أو مشكلة ٨- تحليل النصوص.	١- الاختبار التحريري. ٢- تقييم البحوث ٣- الاختبار العملي ٤- تقييم الأقران ٥- تقييم التمارين والواجبات ٦- الملاحظة والتقييم

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
2.2	**الفهم الصحيح لحقوق الانسان في الإسلام**	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم البحوث ٣- تقييم الواجبات ٤- تقييم العروض ٦- الملاحظة والتقييم
2.3	**- إدراك تميز النظام الاقتصادي في الإسلام- والقدرة على التمييز بين أنواع التأمين .**	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم البحوث ٣- تقييم الواجبات ٤- تقييم العروض ٦- الملاحظة والتقييم
3.0	**القيم**		
3.1	**يستطيع الطالب أن يعرف كيف يتعامل مع ولاة الأمر، ومع غير المسلمين المشاركين في الوطن**	١- المناقشة والحوار ٢- إدارة قاعة الدرس ٣- البحوث القصيرة ٤- التعلم التعاوني ٥- استخدام التقنية الحديثة كالبرامج والمواقع الإلكترونية. ٦- كتابة التقارير العروض التقديمية	١- الملاحظة والتقييم ٢- تقييم التمارين والواجبات ٣- تقييم الأقران ٤- تقييم البحوث.. ٥- تقييم التقارير والتمارين والعروض. ٦- تقييم استخدام البرامج والمواقع الإلكترونية
3.2	**يستطيع الطالب - من خلال دراسته للنظام الاقتصادي في الاسلام - معرفة ما يحل ويحرم من معاملات .**	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
2.4	**يمتلك الطالب القدرة على اتخاذ الموقف الحاسم من معاملات البنوك والتأمين .**	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	واجبات عدد (٨)	مستمر طوال الفصل	%٤٠
٢	منتديات عدد (٢)	الأسبوع (٤) و (٨)	%١٠
٣	اختبارات قصيرة عدد (٢)	الأسبوع (١٠)	%٢٠
	اختبار نهائي	الأسبوع (١٢)	%٣٠

أنشطة التقييم (اختبار تحريري، شفهي، عرض تقديمي، مشروع جماعي، ورقة عمل الخ)

هـ ـ أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- يلتزم الأستاذ بالتواجد في مكتبه خمس ساعات أسبوعياً يقدم خلالها الدعم والإرشاد اللازم للطلاب .
- يوجد وحدة خاصة بالإرشاد الأكاديمي تتولى إرشاد الطلاب وتوجيههم أكاديمياً .
- يتم توزيع الطلاب على أعضاء هيئة التدريس لتقديم الإرشاد الفردي.

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	**-النظام السياسي في الإسلام، سعود بن سلمان آل سعود ومجموعة مؤلفين.** **- أحكام الملكية في الفقه الإسلامي، د. محمد منصور مدخلي.**
المراجع المساندة	**- فقه المعاملات المالية المعاصرة، د. سعد الخثلان.** **- الاقتصاد الإسلامي أسس ومباديء وأحكام – عبدالله الطريقي**
المصادر الإلكترونية	- موقع الجمعية العلمية السعودية لعلوم العقيدة والأديان والفرق والمذاهب.
أخرى	.....

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعة دراسية تتسع لـ(٤٠) طالباً فما فوق ، مجهزة بشاشة عرض .
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	توفير الوسائل التعليمية المتنوعة (سبورة ذكية ، جهاز عرض، حاسب آلي ومستلزماته).
تجهيزات أخرى (تبعاً لطبيعة التخصص)	دائرة تلفزيونية مغلقة إذا كانت المحاضرة خاصة بالطالبات .

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	الطلاب المراجع النظير	- استبانات تقييم الطلاب للمقرر - مقابلات مع الطلاب. - تقرير المقرر. - تقرير المراجع النظير
فاعلية طرق تقييم الطلاب	الطلاب قيادات البرنامج المراجع النظير أعضاء هيئة التدريس. المراجع المستقل.	- تقويم النظير. - تقرير المراجع المستقل. - استطلاع آراء الطلاب . - تقرير المقرر. ـ حلقات نقاش حول عملية التدريس.
مدى تحصيل مخرجات التعلم للمقرر	الطلاب. أعضاء هيئة التدريس. قيادات البرنامج.	- استطلاع آراء الطلاب . - مقابلات مع الطلاب. - تقرير قيادات البرنامج.

مجالات التقويم	المقيمون	طرق التقييم
	المراجع النظير. المراجع المستقل.	ـ مقابلات مع أعضاء هيئة التدريس. ـ تقرير المراجع المستقل. ـ تقرير المراجع النظير. ـ تقرير المقرر.
مصادر التعلم	الطلاب. أعضاء هيئة التدريس. قيادات البرنامج. المراجع النظير. المراجع المستقل.	ـ استطلاع آراء الطلاب . ـ مقابلات مع الطلاب. ـ تقرير قيادات البرنامج. ـ مقابلات مع أعضاء هيئة التدريس. ـ تقرير المراجع المستقل. ـ تقرير المراجع النظير. ـ تقرير المقرر.
مجالات التقويم	**المقيمون**	**طرق التقييم**
فاعلية التدريس	**الطلاب** **المراجع النظير**	ـ استبانات تقييم الطلاب للمقرر ـ مقابلات مع الطلاب. ـ تقرير المقرر. ـ تقرير المراجع النظير
فاعلية طرق تقييم الطلاب	الطلاب قيادات البرنامج المراجع النظير أعضاء هيئة التدريس. المراجع المستقل.	- تقويم النظير. ـ تقرير المراجع المستقل. ـ استطلاع آراء الطلاب . ـ تقرير المقرر. ـ حلقات نقاش حول عملية التدريس.

مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلاب، مدى تحصيل مخرجات التعلم للمقرر، مصادر التعلم ... إلخ)
المقيمون (الطلبة، أعضاء هيئة التدريس، قيادات البرنامج، المراجع النظير، أخرى (يتم تحديدها)
طرق التقييم (مباشر وغير مباشر)

ح. اعتماد التوصيف

جهة الاعتماد	**مجلس قسم الدراسات الإسلامية**
رقم الجلسة	الخامسة (٥)
تاريخ الجلسة	١٤٤٢/٥/٧هـ

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	✓	What percentage?	100%
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?

- تحسين مستوى الإعراب
- إجادة 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 ـ الإعراب والبناء والعموم والخصوص في دلالات الألفاظ ونماذج من الأخطاء الشائعة ودراسة المعاجم وتطبيقات.

1. Topics to be Covered

List of Topics	No. of Weeks	Contact hours
الكلمة والكلام وعلامات الأسماء.	1	2
علامات الأفعال ـ 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	Planed	30					30
	Actual						
Credit	Planed	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 شفهية.
4.3	تنمية الحس اللغوي لدى الطلاب، وتجنب الأخطاء الشائعة نطقا وكتابة.	جهاز عرض على الشاشة	اختبارات شفهية وتحريرية. قراءة بعض النصوص. مشاركة الطلاب في القاعة .
4.4	الحكم الصحيح على كيفية نطق الكلمات واعرابها	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 فصلي أول.	السابع	20%
2	اختبار شفهي لكل طالب على حدة في المحاضرة.	الثامن	% 5
3	اختبار فصلي ثان.	الرابع عشر	20%
4	المشاركة والتفاعل مع الأستاذ.	طوال الفصل الدراسي	% 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)

ساعة مكتبية لكل شعبة على حدة – وتوزع الساعات التي يدرس فيها الأستاذ (وفق العبء التدريسي) .

E Learning Resources

1. النحو الوافي، عباس حسن -النحو الوافي مع ربطه بالأساليب الرفيعة والحياة اللغوية المتجددة - دار المعارف - الطبعة الثالثة - 4 مجلدات) 15 / 10 / 2008
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 وحد 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.

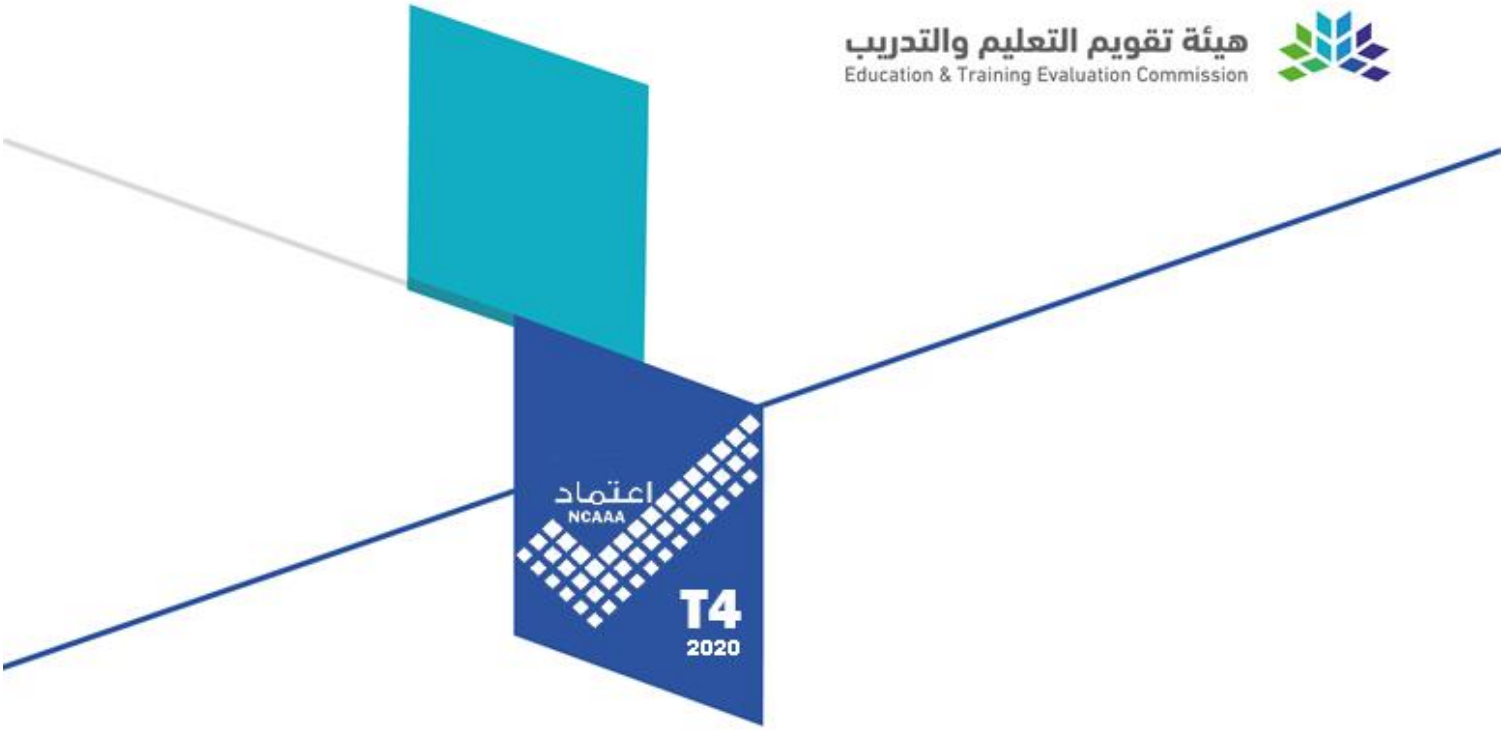
1. تعقد اللجنة التي تدرس المقرر اجتماعا في بداية كل فصل للنظر في المادة المطروحة للتدريس وحذف أو زيادة ما يناسب المقرر.
2. تبادل طرق العرض للمادة بين الأساتذة.

Name of Course Instructor: _____

Signature: _____ Date Specification Completed: _____

Program Coordinator: _____

Signature: _____ Date Received: _____



توصيف المقرر الدراسي

اسم المقرر:	**الثقافة الإسلامية (٣)**
رمز المقرر:	**١١٣ سلم ٢**
البرنامج:	**متطلب عام**
القسم العلمي:	**الدراسات الإسلامية**
الكلية:	**الشريعة وأصول الدين**
المؤسسة:	**جامعة الملك خالد**

تمت الموافقة عليه بقرار مجلس الكلية رقم ١٦٤٢/ ١١في محضر مجلس الكلية السادس بتأريخ ٧ / ٦ / ١٤٤٢ هـ

المحتويات

أ. التعريف بالمقرر الدراسي: ٣

ب- هدف المقرر ومخرجاته التعليمية: ٣

١. الوصف العام للمقرر: ٣

٢. الهدف الرئيس للمقرر ٣

٣. مخرجات التعلم للمقرر: ٣

ج. موضوعات المقرر ٤

د. التدريس والتقييم: ٥

١. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم ٥

٢. أنشطة تقييم الطلبة ٧

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي: ٧

و – مصادر التعلم والمرافق: ٧

١. قائمة مصادر التعلم: ٧

٢. المرافق والتجهيزات المطلوبة: ٧

ز. تقويم جودة المقرر: ٨

ح. اعتماد التوصيف ٨

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة: ثلاث ساعات

٢. نوع المقرر

أ. متطلب جامعة [√] متطلب كلية [ ] متطلب قسم [ ] أخرى [ ]

ب. إجباري [√] اختياري [ ]

٣. السنة / المستوى الذي يقدم فيه المقرر

٤. المتطلبات السابقة لهذا المقرر (إن وجدت)

لا يوجد

٥. المتطلبات المتزامنة مع هذا المقرر (إن وجدت)

لا يوجد

٦. نمط الدراسة (اختر كل ما ينطبق)

م	نمط الدراسة	عدد الساعات التدريسية	النسبة
1	المحاضرات التقليدية	—	—
2	التعليم المدمج	—	—
3	التعليم الإلكتروني	√ (كامل)	١٠٠ %
4	التعليم عن بعد	—	—
5	أخرى	—	—

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات	٢
٢	معمل أو إستوديو	١
٣	دروس إضافية	١
٤	أخرى (تذكر)	-
	الإجمالي	٤

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

يقدم محتوى هذا المقرر مجموعة من الموضوعات التي تبين 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.

٢. الهدف الرئيس للمقرر

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.

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	**معرفة الأسس التي يقوم عليها المجتمع الإسلامي .**	

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1.2	معرفة النظام الأسري في الشريعة الإسلامية.	
1.3	معرفة أهم مشاكل الأسرة .	
1...	معرفة الأسس التي يقوم عليها المجتمع الإسلامي .	
2	المهارات	
2.1	القدرة على التمييز بين النظام الاجتماعي في الإسلام وغيره من النظم.	
2.2	القدرة على معرفة مقومات المجتمع المسلم .	
2.3	الاستيعاب التام لقضايا الأسرة والزواج في التشريع الإسلامي والأنظمة الوضعية .	
2...	القدرة على التمييز بين النظام الاجتماعي في الإسلام وغيره من النظم.	
3	القيم	
3.1	التمكن من تقديم الحلول الفاعلة لما يعتري المجتمع من مشكلات .	
3.2	الإلمام بقضايا الزواج وبناء الأسرة التي يقوم عليها بناء المجتمع .	
3.3	القدرة على التواصل المجتمعي وإيجاد الصيغ اللازمة لحل الأزمات .	
3...	تحمل المسؤولية التامة لما يسند إليه من أمور .	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	القسم الأول: التعريف بالمجتمع الإسلامي ويتكون مما يأتي: أولاً : مفهوم المجتمع الإسلامي. ثانيا : أسس بناء المجتمع الإسلامي: ثالثا : 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 في ظل القواعد الشرعية والأنظمة المرعية.	٢
٢	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. 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
٣	رابعا : خصائص المجتمع الإسلامي. خامسا : وسائل تقوية الروابط الاجتماعية: -تشريع الزكاة. -تحمل العاقلة للدية. حقوق الجار. -صلاة الجمعة والجماعة والعيدين. -المشاركة في المناسبات المختلفة (الزواج ، عيادة المريض ، تشييع الجنازة.) -إفشاء السلام. -التزاور	٢
٤	سادسا : أهم المشكلات الاجتماعية: -الزنا والقذف والأخطار المترتبة عليهما. -انحراف الشباب (دور الأسرة ، دور المسجد ، دور المؤسسات التعليمية ، والهيئات	٢

	الثقافية.....إلخ.	
٥	القسم الثاني: الأسرة في الإسلام : ويشتمل على : أ)أصل الأسرة في الإسلام(الزواج الشرعي أصل الأسرة-) ب) أهمية الأسرة في بناء المجتمع- . ج)مكانة المرأة في الإسلام- . .	٢
٦	ثانيا : 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 ثالثا : الزواج وأهدافه: -تعريف العقد وبيان حكم الزواج . -أركان العقد وشروطه . الأهداف : - توجيه الغرائز بطريقة تتناسب مع مكانة الإنسان. -تحقيق السكن النفسي. -صيانة أفراد المجتمع من الانحراف. -المحافظة على النسل. -العناية بتربية النشء "	٤
٧	رابع ا : الآثار المترتبة على عقد الزواج: -حقوق الزوج. -حقوق الزوجة. -حقوق الأولاد .	٢
٨	خامسا : وسائل تقوية الروابط الأسرية: -بر الوالدين. -صلة الأرحام. -منع الزواج من المحارم. -نفقة الأقارب. -التوارث .	٢
٩	سادسا : أهم قضايا الأسرة: -قوامة الزوج. -المشكلات الزوجية وطرق حلها. -الطلاق وأنواعه ، حدوده ، وقيوده. -الخلع - اللعان - الظهار - الإيلاء - العدة وأنواعها - النسب - تعدد الزوجات	٢
	المجموع	٢٠

د. التدريس والتقييم:

١. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1.0	المعرفة والفهم		
1.1	ـ معرفة الأسس التي يقوم عليها المجتمع الإسلامي	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
1.2	- معرفة النظام الأسري في الشريعة الإسلامية.	١- البحوث القصيرة ٢- التعلم التعاوني	١- الاختبار التحريري ٢- تقييم الأقران

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
		٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
1.3	**- الاطلاع على الأنظمة الوضعية فيما يتعلق بقضايا الأسرة والمجتمع.**	٥- البحوث القصيرة ٦- التعلم التعاوني ٧- الحوار والمناقشة. ٨- العروض التقديمية ٥- المحاضرة الصفية	٦- الاختبار التحريري ٧- تقييم الأقران ٨- تقييم البحوث ٩- تقييم الواجبات ١٠- تقييم العروض ٦- الملاحظة والتقييم
2.0	**المهارات**		
2.1	**- القدرة على التمييز بين النظام الاجتماعي في الإسلام وغيره من النظم.**	١- البحوث القصيرة ٢- الحوار والمناقشة ٣- التمارين والواجبات ٤- التطبيق العملي ٥- التعلم التعاوني ٦- ضرب الأمثلة والشواهد ٧- دراسة حالة أو مشكلة ٨- تحليل النصوص.	١- الاختبار التحريري. ٢- تقييم البحوث ٣- الاختبار العملي ٤- تقييم الأقران ٥- تقييم التمارين والواجبات ٦- الملاحظة والتقييم
2.2	**- القدرة على معرفة مقومات المجتمع المسلم .**	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم
3.0	**القيم**		
3.1	**- التمكن من المناقشة والنقد للنظم التي تخالف الشريعة.**	١- المناقشة والحوار ٢- إدارة قاعة الدرس ٣- البحوث القصيرة ٤- التعلم التعاوني ٥- استخدام التقنية الحديثة كالبرامج والمواقع الإلكترونية. ٦- كتابة التقارير العروض التقديمية	١- الملاحظة والتقييم ٢- تقييم التمارين والواجبات ٣- تقييم الأقران ٤- تقييم البحوث.. ٥- تقييم التقارير والتمارين والعروض. ٦- تقييم استخدام البرامج والمواقع الإلكترونية
3.2	**- القدرة على القيام بإنتاج البحوث العلمية التي تسهم في حل المشكلات المجتمعية وتعالج قضايا الأسرة.**	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
			٦- الملاحظة والتقييم
3.3	**ـ امتلاك مهارة استخدام البرامج الإلكترونية للوصول إلى المعلومات المتعلقة بالنظم المعلوماتية التي ترتقي بمستواه للمساهمة في حل قضايا الأسرة والمجتمع.**	١- البحوث القصيرة ٢- التعلم التعاوني ٣- الحوار والمناقشة. ٤- العروض التقديمية ٥- المحاضرة الصفية	١- الاختبار التحريري ٢- تقييم الأقران ٣- تقييم البحوث ٤- تقييم الواجبات ٥- تقييم العروض ٦- الملاحظة والتقييم

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	واجبات عدد (٨)	مستمر طوال الفصل	%٤٠
٢	منتديات عدد (٢)	الأسبوع (٤) و (٨)	%١٠
٣	اختبارات قصيرة عدد (٢)	الأسبوع (١٠)	%٢٠
٤	اختبار نهائي	الأسبوع (١٢)	%٣٠

أنشطة التقييم (اختبار تحريري، شفهي، عرض تقديمي، مشروع جماعي، ورقة عمل الخ)

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- يلتزم الأستاذ بالتواجد في مكتبه خمس ساعات أسبوعياً يقدم خلالها الدعم والإرشاد اللازم للطلاب .
- يوجد وحدة خاصة بالإرشاد الأكاديمي تتولى إرشاد الطلاب وتوجيههم أكاديمياً .
- يتم توزيع الطلاب على أعضاء هيئة التدريس لتقديم الإرشاد الفردي.

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	**- المحاضرات المرفوعة على البلاك بورد.**
المراجع المساندة	**- أصول النظام الاجتماعي في الإسلام ابن عاشور.** - النظام الاجتماعي في الإسلام – د. منير عبدالله خضير – مكتبة الرشد١٤٣٧هـ
المصادر الإلكترونية	.....
أخرى	.....

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعة دراسية تتسع لـ(٤٠) طالباً فما فوق ، مجهزة بشاشة عرض .
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	توفير الوسائل التعليمية المتنوعة (سبورة ذكية ، جهاز عرض، حاسب آلي ومستلزماته).
تجهيزات أخرى (تبعاً لطبيعة التخصص)	دائرة تلفزيونية مغلقة إذا كانت المحاضرة خاصة بالطالبات .

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	الطلاب المراجع النظير	ـ استبانات تقييم الطلاب للمقرر ـ مقابلات مع الطلاب. ـ تقرير المقرر. ـ تقرير المراجع النظير
فاعلية طرق تقييم الطلاب	الطلاب قيادات البرنامج المراجع النظير أعضاء هيئة التدريس. المراجع المستقل.	ـ تقويم النظير. ـ تقرير المراجع المستقل. ـ استطلاع آراء الطلاب . ـ تقرير المقرر. ـ حلقات نقاش حول عملية التدريس.
مدى تحصيل مخرجات التعلم للمقرر	الطلاب. أعضاء هيئة التدريس. قيادات البرنامج. المراجع النظير. المراجع المستقل.	ـ استطلاع آراء الطلاب . ـ مقابلات مع الطلاب. ـ تقرير قيادات البرنامج. ـ مقابلات مع أعضاء هيئة التدريس. ـ تقرير المراجع المستقل. ـ تقرير المراجع النظير. ـ تقرير المقرر.
مصادر التعلم	الطلاب. أعضاء هيئة التدريس. قيادات البرنامج. المراجع النظير. المراجع المستقل.	ـ استطلاع آراء الطلاب . ـ مقابلات مع الطلاب. ـ تقرير قيادات البرنامج. ـ مقابلات مع أعضاء هيئة التدريس. ـ تقرير المراجع المستقل. ـ تقرير المراجع النظير. ـ تقرير المقرر.

مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلاب، مدى تحصيل مخرجات التعلم للمقرر، مصادر التعلم ... إلخ)
المقيمون (الطلبة، أعضاء هيئة التدريس، قيادات البرنامج، المراجع النظير، أخرى (يتم تحديدها)
طرق التقييم (مباشر وغير مباشر)

ح. اعتماد التوصيف

جهة الاعتماد	**مجلس قسم الدراسات الإسلامية**
رقم الجلسة	الجلسة(٥)
تاريخ الجلسة	١٤٤٢/٥/٧هـ

Kingdom of Saudi Arabia
National Commission for
Academic Accreditation & Assessment

المملكة العربية السعودية
الهيئة الوطنية للتقويم
والاعتماد الأكاديمي

ATTACHMENT 2 (e)

Course Specifications

Kingdom of Saudi Arabia

The National Commission for Academic Accreditation & Assessment

Course Specifications
(CS)

Course Specifications

Institution	Date of Report
King Khalid University	March 1st , 2015
College/Department: King Khalid University, College of Computer Science.	

A. Course Identification and General Information

1. Course title and code:
Introduction to Computer. Hal-101.

2. Credit hours:2

3. Program(s) in which the course is offered.
(If general elective available in many programs indicate this rather than list programs)
Education college. Level:1&2

4. Name of faculty member responsible for the course
AbdulHafeez Muhammad Younis and others

5. Level/year at which this course is offered: First level

6. Pre-requisites for this course (if any)
non

7. Co-requisites for this course (if any)
non

8. Location if not on main campus
Algreeger (Main Campus).

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?	100
d. Correspondence		What percentage?	
f. Other		What percentage?	

Comments:

It is full online but there will be some face to face classes and orientations

B Objectives

1. What is the main purpose for this course? This course is designed to provide introduction to students with basic usage and fundamentals of the computer. Also provide students information about hardware and software. In a general word the aim is to give students basic understanding of how to use computer and using technology in the education field. Also in the practical section students are going to understand how to use windows Microsoft office.
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). First three weeks instructor must attend with students in the electronics lab in order to explain how to use Blackboard. Each three weeks instructor must attend with the students. Students in the other weeks (we there is no attend) must prepare and do the homework through blackboard.

C. Course Description (Note: General description in the form to be used for the Bulletin or handbook should be attached)

1. Topics to be Covered		
List of Topics	No. of Weeks	Contact Hours
Orientatasion , seminars , Training and fact to face classes	1,2,3	6
Overview and definition of E-learning , different developments in time explain the different delivery types of E-learning, to list benefits and limitation of E-learning, Different learning models and overview of Learning Management System and its features, overview of communication technologies used in E-learning and its advantages.	4	2
Overview of an Information system and its different parts and overview of Information technology and System software and Application software and utilities, Overview of hardware and types of computers and introduction to system unit and microprocessor, RAM and secondary storage devices, Communication and Data, types of files and connectivity and Internet.	5	2
Internet and Web, difference between the internet and web, common internet uses, functions of an ISP, types of ISPs, browser and overview of URL and its parts, internet communication, social networking and its categories, search tools and search engines.	6	2

Operating Systems and their Functions, Features, a nd categories. Utilities - Windows Utilities, Device Drivers.	7	2
Basic Application Software: Common features of the Application Software, Web-based Applications, Word Processors, Spreadsheets ,Database Management Systems, and Presentation graphics	8	2
Introduction to specialized applications and types of specialized applications, Overview of graphics and types of graphics programs with examples, Illustration programs and examples, Image galleries and its types, Graphic suites its advantages and types of suites, Audio and Video editing software's with examples, Multimedia and its uses, Web authoring programs with examples, Artificial intelligence and types of areas, Robotics and types of robots	9	2
Introduction to System Unit and its different types, Overview of different types of numbering system, Character encoding and types of encoding, System board and components, Microprocessor and its components, Micro processor chips, Memory and types of memory, Expansion cards and slots and types of expansion cards, Bus lines and its categories, Overview of ports and its types, cables and power supply.	10	2
Definition of input and input devices, types of keyboards and pointing devices, Scanning devices and its different types, Car readers and Bar code readers, Image capturing devices and definition of audio input devices, Definition of output and output devices and its types, types of monitors and its features, types of printers and its features, Combination of input and output devices and its types.	11	2

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

	Lecture	Tutorial	Laboratory	Practical	Other:	Total
Contact Hours	22+8		13*2		4	
Credit	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

Course 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, assessment, and teaching.

The ***National Qualification Framework*** provides five learning domains. Course learning outcomes are required. Normally a course has should not exceed eight learning outcomes which align with one or more of the five learning domains. Some courses have one or more program learning outcomes integrated into the course learning outcomes to demonstrate program learning outcome alignment. The program learning outcome matrix map identifies which program learning outcomes are incorporated into specific courses.

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. **Fourth**, if any program learning outcomes are included in the course learning outcomes, place the @ symbol next to it.

Every course is 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 computer concept, term, usage and application. Attend the training of using black board	Lecture through online(LMS)	Quizzes & homework
1.2	Name computer devices and its functionality.	Lecture through online (LMS).	Quizzes& Homework.
2.0	**Cognitive Skills**		
2.1	Compare between two components of computer hardware /software.	Lecture through online(LMS)	Quizzes , Labs
2.2	Explain network process and its usage.	Lecture through online (LMS).	Homework, Labs
3.0	**Interpersonal Skills & Responsibility**		
3.1	Evaluate student usage of using software package for using software application.	Check their Homework	Quizzes , Labs
3.2	Demonstrate graphs.	Check their quizzes.	Homework.
4.0	**Communication, Information Technology, Numerical**		
4.1	Evaluate student's usage of software package for their communication.	Using internet	Presentation . Labs
4.2	Calculate using software package.	marketing	Presentation . Labs
5.0	**Psychomotor**		
5.1	Examine student using blackboard	Check their progress	Homework and quizzes
5.2			

Suggested Guidelines for Learning Outcome Verb, Assessment, and Teaching

NQF Learning Domains	Suggested Verbs
Knowledge	list, name, record, define, label, outline, state, describe, recall, memorize, reproduce, recognize, record, tell, write
Cognitive Skills	estimate, explain, summarize, write, compare, contrast, diagram, subdivide, differentiate, criticize, calculate, analyze, compose, develop, create, prepare, reconstruct, reorganize, summarize, explain, predict, justify, rate, evaluate, plan, design, measure, judge, justify, interpret, appraise
Interpersonal Skills & Responsibility	demonstrate, judge, choose, illustrate, modify, show, use, appraise, evaluate, justify, analyze, question, and write
Communication, Information Technology, Numerical	demonstrate, calculate, illustrate, interpret, research, question, operate, appraise, evaluate, assess, and criticize

Psychomotor	demonstrate, show, illustrate, perform, dramatize, employ, manipulate, operate, prepare, produce, draw, diagram, examine, construct, assemble,

Suggested ***verbs not to use*** when writing measurable and assessable learning outcomes are as follows:

Consider	Maximize	Continue	Review	Ensure	Enlarge	Understand
Maintain	Reflect	Examine	Strengthen	Explore	Encourage	Deepen

Some of these verbs can be used if tied to specific actions or quantification.

Suggested assessment methods and teaching strategies are:

According to research and best practices, multiple and continuous assessment methods are required to verify student learning. Current trends incorporate a wide range of rubric assessment tools; including web-based student performance systems that apply rubrics, benchmarks, KPIs, and analysis. Rubrics are especially helpful for qualitative evaluation. Differentiated assessment strategies include: exams, portfolios, long and short essays, log books, analytical reports, individual and group presentations, posters, journals, case studies, lab manuals, video analysis, group reports, lab reports, debates, speeches, learning logs, peer evaluations, self-evaluations, videos, graphs, dramatic performances, tables, demonstrations, graphic organizers, discussion forums, interviews, learning contracts, antidotal notes, artwork, KWL charts, and concept mapping.

Differentiated teaching strategies should be selected to align with the curriculum taught, the needs of students, and the intended learning outcomes. Teaching methods include: lecture, debate, small group work, whole group and small group discussion, research activities, lab demonstrations, projects, debates, role playing, case studies, guest speakers, memorization, humor, individual presentation, brainstorming, and a wide variety of hands-on student learning activities.

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	Home Work1	3	1%
2	Home Work1	5	1%
3	Home Work1	7	1%
4	Home Work1	9	1%
	Home Work1	11	1%
5	Online Activities, Interaction & Discussions	Every week	5%
6	Mid-exam 1	Before Mid Break	10%
7	Mid-exam 2	After Mid Break	10%
8	Lab Exam		20%
9	Final	Final Week	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 must attend their office hours. Also through blackboard student can send email to the instructor.

E. Learning Resources

1. List Required Textbooks Computing Essentials " by Timothy J. O'Leary and Linda I. O'L eary, McGraw Hill International Edition
2. List Essential References Materials (Journals, Reports, etc.) Online Materials of Computing Essentials " by Timothy J. O'Leary and Linda I. O'L eary, McGraw Hill International
3. List Recommended Textbooks and Reference Material (Journals, Reports, etc)
4. List Electronic Materials (eg. Web Sites, Social Media, Blackboard, etc.) lms.kku.edu.sa
5. Other learning material such as computer-based programs/CD, professional standards or regulations and software. Online tutorial.

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.) Latest updated version of MS office.

2. Computing resources (AV, data show, Smart Board, software, etc.) Access to the internet in the classrooms.
3. Other resources (specify, e.g. if specific laboratory equipment is required, list requirements or attach list) Non.

G Course Evaluation and Improvement Processes

1 Strategies for Obtaining Student Feedback on Effectiveness of Teaching Students evaluation collected form students. Through LMS
2 Other Strategies for Evaluation of Teaching by the Program/Department Instructor Preparation of course report.
3 Processes for Improvement of Teaching Revision of course specification, based on previous semester course report.
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) All the course activities are monitor by course coordinator. Four meeting in a semester for all course teacher and lab teacher.

5 Describe the planning arrangements for periodically reviewing course effectiveness and planning for improvement. Revision of course report and update on course specification.

Faculty or Teaching Staff: Abdul Hafeez Muhamamd

Signature: _____ **Date Report Completed:** March 1st , 2015

Received by: _____ **Dean/Department Head**

Signature: _____ **Date:** 1/3/15

موافقة مجلس القسم
بموجب القرار
١٤٣٧/٢١/١ في ١٤٣٧/٨/٢٩هـ

موافقة مجلس الكلية
بموجب القرار
٣٧/٣٦/٢٢/١٠ في ١٤٣٧/٩/٢هـ

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

توصيف المقرر الدراسي

اسم المقرر:	مدخل إلى الحاسب الآلي
رمز المقرر:	101حال-2
البرنامج:	اللغة العربية
القسم العلمي:	اللغة العربية
الكلية:	العلوم الإنسانية
المؤسسة:	جامعة الملك خالد

المحتويات

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أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: 2(1+1)

2. نوع المقرر

أ. متطلب جامعة ☐ متطلب كلية ☑ متطلب قسم ☐ أخرى ☐

ب. إجباري ☑ اختياري ☐

3. السنة / المستوى الذي يقدم فيه المقرر السنة الأولى

4. المتطلبات السابقة لهذا المقرر (إن وجدت)

لا يوجد

5. المتطلبات المتزامنة مع هذا المقرر (إن وجدت)

لا يوجد

6. نمط الدراسة (اختر كل ما ينطبق)

م	نمط الدراسة	عدد الساعات التدريسية	النسبة
1	**المحاضرات التقليدية**		
2	**التعليم المدمج**		
3	**التعليم الإلكتروني**	✓	٪100
4	**التعليم عن بعد**		
5	**أخرى**		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	٣٠
2	معمل أو إستوديو	٣٠
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	٦٠

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

أن يتعرف الطالب على المفاهيم الرئيسية والعامة للحاسب الآلي وعلى آلية عمل الحاسب، كذلك أن يدرك الطالب دور الحاسب واستخداماته في المجالات المختلفة مع مشاركة الطالب زملائه في التعلم والبحث عن التقنيات الحديثة للحاسب وتقنيات المعلومات.

2. الهدف الرئيس للمقرر

1. أن يتعرف الطالب على المفاهيم الرئيسية في علوم الحاسب الآلي.
2. أن يتعرف الطالب على آلية عمل الحاسب الآلي ومكوناته.
3. أن يدرك الطالب دور الحاسب في واستخداماته في المجالات المختلفة.
4. أن يساهم الطالب زملائها في التعلم والبحث عن التقنيات الحديثة للحاسب وتقنياً المعلومات من خلال وسائل المشاركة الإلكترونية للمقرر.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	استيعاب مميزات الحاسب وأنواعه المختلفة ومكوناته الأساسية.	
1.2	التعرف على تطبيقات الحاسب ومجالاته المختلفة.	
1.3	التعرف على أدوار الحاسب وأهمية تطبيقاته المتعددة.	
2	**المهارات**	
2.1	اتقان استخدام وتشغيل الحاسب الآلي والمقارنة بين الأنواع المختلفة له وتطبيقاته ومجالاته.	
2.2	تطبيق استخدام برامج مايكروسوفت (وورد ، اكسل ، باوربوينت)	
2.3	استخدام نظام التعلم الإلكتروني وادواته المختلفة.	
3	**القيم**	
3.1	اظهار القدرة على الحوار وتبادل الأفكار وطرحها بوضوح.	
3.2	العمل الجماعي ضمن فريق وتكوين علاقات إيجابية والتعلم من الاقران.	
3.3	مهارات التعامل مع مشكلات التفاعل مع المحيط من خلال منهجية حل المشكلات لتطوير المهارات اللازمة لإدارة الوقت وتحديد الأولويات والالتزام بالموعد النهائي لتسليم المهام المحددة.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	**التدريب على نظام التعلم الإلكتروني (البلاك بورد) (نظري)** تدريب حضوري في معامل التعلم الالكتروني وجزء تطبيقي يقوم المتعلم بالتدريب والتجربة على استخدام البلاك بورد وكافة ادواته المستخدمة خلال دراسة المقرر.	٤
2	**الوحدة الأولى: (نظري)** • مقدمة للتعلم الالكتروني ○ مفهوم التعلم الالكتروني ○ مفهوم التعلم عن بُعد • تطور التعلم الالكتروني • مبررات استخدام التعلم الالكتروني • أهداف التعلم الالكتروني • معوقات التعلم الالكتروني • أنواع التعلم الإلكتروني • أدوات التعلم الإلكتروني • مُتطلبات التعلم الإلكتروني • نماذج توظيف التعلم الإلكتروني في التدريس ○ النموذج المساعد(المكمل) ○ النموذج الممزوج(المخلوط) ○ النموذج الخالص(الكامل) • برامج التعليم الإلكتروني(الأنظمة) ○ نظام إدارة التعليم الإلكتروني (LMS) ○ نظام إدارة محتوى التعلم (LCMS) **- (العملي)** التعرف على نظام التشغيل (ويندوز) وأدوات التحكم به.	

3	**الوحدة الثانية** • البيانات والمعلومات • تعريف البيانات ○ تصنيف البيانات • تعريف المعلومات • وحدة قياس البيانات والمعلومات • الفرق بين البيانات والمعلومات • أمثلة عمليّة • تصّنيف الحاسبات • التركيب التقني ○ الحواسيب التناظرية ○ الحواسيب الرقمية • الغرض من الاستخدام ○ الحاسب متعدد الأغراض ○ الحاسب المتخصص • الحجم والقدرة التنفّيذية **- (العملي)** التعرف على برنامج محرر النصوص (وورد) وادواته.	٤
4	**الوحدة الثالثة** • ما هو الحاسب الآلي؟ • المكونات العامة لنظام الحاسب الآلي. ○ الأجزاء المادية ○ الأجزاء البرمجية • وحدة النظام في الحاسب System Unit ○ المعالج ○ الذاكرة • الذاكرة (وحدة الذاكرة الرئيسية) ○ ذاكرة الوصول العشوائي RAM ○ ذاكرة القراءة فقط ROM • وحدات التخزين الثانوية Secondary Storages ○ محرك الأقراص الصلبة Hard Disk ○ محرك الأقراص الممغنطة Floppy Disk ○ محرك الأقراص الليزرية CD- Rom Driver ○ ذاكرة الفلاش Flash Memory • وحدات الإدخال Input Devices • وحدات الإخراج Output Devices • البرمجيات Software **- (العملي)** التعرف على برنامج محرر النصوص (وورد) وادواته المتقدمة.	٤

5	**الوحدة الرابعة** • تعريف الشبكات وأنواعها ○ تعريف الشبكات ○ مكونات الشبكة ○ أنواع شبكات الحاسب • شبكة الانترنت ○ نبذة تاريخية ○ تعريف الانترنت وخدماته ○ محركات البحث ○ الويب • الانترنت والتجارة الالكترونية ○ مفهوم التجارة الالكترونية ○ شركات التجارة الالكترونية ○ البنية التحتية للتجارة الالكترونية ○ أنواع التجارة الالكترونية • الانترنت والحكومة الالكترونية ○ أهمية الحكومة الالكترونية ○ ماهي أهداف برنامج الحكومة الإلكترونية؟ ○ متطلبات بناء الحكومة الالكترونية **- (العملي)** التعرف على برنامج (اكسل) وادواته.	٤
6	**الوحدة الخامسة** • أنواع أنظمة التشغيل • تصنيف أنظمة تشغيل • أمثلة على أنظمة التشغيل ○ ويندوز ○ ابل ماكنتوش ○ لينكس • مفهوم قواعد البيانات • تركيبات قواعد البيانات • مكونات قاعدة البيانات • نظام إدارة قاعدة البيانات **- (العملي)** التعرف على برنامج (اكسل) وادواته المتقدمة.	٤
7	**الوحدة السادسة** • الفيروسات ○ أجزاء الفيروس ○ المناطق التي يهاجمها الفيروس • أنواع الفيروسات	٤

	• كلمة السر وشروطها • علم التشفير (Cryptology) ○ أسباب اعتماد علم التشفير ○ آليات علم التشفير • التشفير (Encryption) • التقطيع (Hashing) • التوقيع (Signature) • مكافحة الفيروسات ○ اكتشاف الفيروسات ومكافحتها ○ مضادات الفيروسات ○ مكافحة الفيروسات ○ الوقاية من الفيروسات ○ التنصت (Sniffing) **- (العملي)** التعرف على برنامج تقديم العروض (باوربوينت) وادواته.	
8	مراجعة نهائية لكافة الوحدات. **- (العملي)** التعرف على برنامج تقديم العروض (باوربوينت) وادواته المتقدمة.	٢
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د. التدريس والتقييم:

1. ربط مخرجات التعلم للمقرر مع كل من استراتيجيات التدريس وطرق التقييم

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1.0	**المعرفة والفهم**		
1.1	استيعاب مميزات الحاسب وأنواعه المختلفة ومكوناته الأساسية.	-أسلوب المحاضرة الحضورية والنقاش كذلك التطبيق العملي لبعض برامج وتطبيقات الحاسب المختلفة في الجزء العملي. - أسلوب الاطلاع على المحاضرة المسجلة والمواد الإضافية على نظام إدارة التعلم الإلكتروني.	- اختبار قصير معرفي على نظام التعلم الإلكتروني. - تطبيق عملي حضوري وتغذية راجعة مباشرة.
1.2	التعرف على تطبيقات الحاسب ومجالاته المختلفة.	أسلوب المحاضرة الحضورية والنقاش كذلك التطبيق العملي لبعض برامج وتطبيقات الحاسب المختلفة في الجزء العملي. - أسلوب الاطلاع على المحاضرة المسجلة والمواد الإضافية على نظام إدارة التعلم الإلكتروني.	اختبار قصير معرفي على نظام التعلم الإلكتروني. - تطبيق عملي حضوري وتغذية راجعة مباشرة. - لوحة المناقشات على نظام إدارة التعلم الإلكتروني (البلاك بورد)
1.3	التعرف على أدوار الحاسب وأهمية تطبيقاته المتعددة.	أسلوب المحاضرة الحضورية والنقاش كذلك التطبيق العملي لبعض برامج وتطبيقات	اختبار قصير معرفي على نظام التعلم الإلكتروني. - تطبيق عملي حضوري

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
		الحاسب المختلفة في الجزء العملي. - أسلوب الاطلاع على المحاضرة المسجلة والمواد الإضافية على نظام إدارة التعلم الإلكتروني.	وتغذية راجعة مباشرة. - لوحة المناقشات على نظام إدارة التعلم الإلكتروني (البلاك بورد)
2.0	**المهارات**		
2.1	اتقان استخدام وتشغيل الحاسب الآلي والمقارنة بين الأنواع المختلفة له وتطبيقاته ومجالاته.	- أسلوب المحاضرة الحضورية والنقاش كذلك التطبيق العملي لبعض برامج وتطبيقات الحاسب المختلفة في الجزء العملي. أسلوب الاطلاع على المحاضرة المسجلة والمواد الإضافية على نظام إدارة التعلم الإلكتروني.	اختبار قصير معرفي على نظام التعلم الإلكتروني. - تطبيق عملي حضوري وتغذية راجعة مباشرة. - لوحة المناقشات على نظام إدارة التعلم الإلكتروني (البلاك بورد)
2.2	تطبيق استخدام برامج مايكروسوفت (وورد ، اكسل ، باوربوينت)	- أسلوب المحاضرة الحضورية والتطبيق العملي.	- تطبيق عملي حضوري وتغذية راجعة مباشرة.
2.3	استخدام نظام التعلم الإلكتروني وادواته المختلفة.	- أسلوب المحاضرة الحضورية والتطبيق العملي.	اختبار قصير معرفي على نظام التعلم الإلكتروني. - تطبيق عملي حضوري وتغذية راجعة مباشرة. - لوحة المناقشات على نظام إدارة التعلم الإلكتروني (البلاك بورد)
3.0	**القيم**		
3.1	اظهار القدرة على الحوار وتبادل الأفكار وطرحها بوضوح.	- أسلوب المحاضرة الحضورية والنقاش.	- تطبيق عملي حضوري وتغذية راجعة مباشرة.
3.2	العمل الجماعي ضمن فريق وتكوين علاقات إيجابية والتعلم من الاقران.	- أسلوب المحاضرة الحضورية والتطبيق العملي.	لوحة المناقشات على نظام إدارة التعلم الإلكتروني (البلاك بورد)
3.3	مهارات التعامل مع مشكلات التفاعل مع المحيط من خلال منهجية حل المشكلات لتطوير المهارات اللازمة لإدارة الوقت وتحديد الأولويات والالتزام بالموعد النهائي لتسليم المهام	- أسلوب المحاضرات الحضورية والتطبيقية، وكذلك المهام والواجبات الإلكترونية.	اختبارات قصيرة وواجبات متنوعة على نظام التعلم الإلكتروني. - تطبيق عملي حضوري وتغذية راجعة مباشرة. - لوحة المناقشات على نظام إدارة التعلم الإلكتروني (البلاك بورد)

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	**اختبار إلكتروني أول**	6	٪20
2	**الاختبارات القصيرة، والواجبات، والمناقشات (بلاك بورد)**	مستمرة خلال الفصل الدراسي	٪20
3	**اختبار إلكتروني ثاني**	12	٪20
4	**الاختبارات القصيرة، والواجبات، والمناقشات (معمل**	مستمرة خلال الفصل الدراسي	٪10

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
	(		
5	اختبار إلكتروني نهائي	15	٪30

أنشطة التقييم (اختبار تحريري، شفهي، عرض تقديمي، مشروع جماعي، ورقة عمل الخ)

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

من خلال الساعات المكتبية الحضورية مخصصة لإرشاد ودعم الطالب، ومجدولة بطريقة رسمية.
كذلك تقديم المساعدة والدعم من خلال بريد المقرر على نظام التعلم الإلكتروني (البلاك بورد)، والبريد الإلكتروني خلال الأسبوع الدراسي.
- وحدة الارشاد والتوجيه بالقسم.

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	مقدمة في الحاسب والانترنت، د. عبد الله بن عبد العزيز الموسى، مؤسسة شبكة البيانات، الرياض.
المراجع المساندة	الحاسب الآلي واستخداماته في التعليم د .ألفت
المصادر الإلكترونية	العديد من المصادر المساعدة تتاح من خلال نظام التعلم الإلكتروني (البلاك بورد)
أخرى	

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	- قاعة ذات حجم مناسب - مقاعد مريحة - سبورة - أجهزة حاسب آلي
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	- جهاز حاسب آلي - جهاز عرض
تجهيزات أخرى (تبعاً لطبيعة التخصص)	معمل حاسب آلي يحتوي على العدد الكافي من الأجهزة ومجهزة بالبرامج التالية: - نظام التشغيل ويندوز - برنامج مايكروسوفت وورد - برنامج مايكروسوفت اكسل - برنامج مايكروسوفت باوربوينت

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
تقويم فاعلية عملية التدريس.	أعضاء هيئة التدريس- وقيادات البرنامج	مباشر
تقويم طرق التعلم والتقييم الطلبة	الطلبة	مباشر وغير مباشر
تقويم تحقيق مخرجات التعلم	أعضاء هيئة التدريس- وقيادات البرنامج - الطلبة	مباشر وغير مباشر

مجالات التقويم	المقيمون	طرق التقييم
تقويم أدوات ومصادر التعلم.	أعضاء هيئة التدريس- وقيادات البرنامج – الطلبة – الجهات الداعمة للتعلم الإلكتروني.	مباشر وغير مباشر

مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلاب، مدى تحصيل مخرجات التعلم للمقرر، مصادر التعلم ... إلخ)
المقيمون (الطلبة، أعضاء هيئة التدريس، قيادات البرنامج، المراجع النظير، أخرى (يتم تحديدها)
طرق التقييم (مباشر وغير مباشر)

ح. اعتماد التوصيف

جهة الاعتماد	
رقم الجلسة	
تاريخ الجلسة	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	Computer Applications
Course Code:	CS102-3
Program:	Bachelors
Department:	All
College:	College of Business
Institution:	King Khalid University

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A. Course Identification

1. Credit hours: 3 (2+1)
2. Course type **a.** University ☐ College ☒ Department ☐ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered: Level 4
4. Pre-requisites for this course (if any)**:** 101 CSM-3
5. Co-requisites for this course (if any)**:** n/a

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**		
2	**Blended**		
3	**E-learning**	60	100
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	30
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

Develop basic programming and computing skills to solve different mathematical, statistical, and general programming problems using programming tool visual C++.

2. Course Main Objective

This course will develop basic programming and computing skills to solve different mathematical, statistical, and general programming problems using programming tool visual C++. During this course, the student will develop any simple software project like student information system, calculator, Library Management System etc. using the high-level computer language C++. It will help the students to learn other computer languages such as JAVA, Java Script, PHP and other Scripting Languages also.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Design algorithms to solve simple problems and understand general problem-solving strategies.	
1.2	Understand how computer programming may be used to solve problems definition by example of C++ language.	
1.3	Understand various programming concepts such as control structures, methods, arrays, arguments, parameters etc.,	
2	**Skills :**	
2.1	Write simple programs in C++ language by using basic control structures (conditional statements, loops, switches, etc.).	
2.2	Develop computer programs on C++ to express and implement algorithms to solve problems.	
3	**Values:**	
3.1		
3.2		

C. Course Content

No	List of Topics	Contact Hours
1	Orientation, seminars, Training and face to face classes	6
2	Ch:1 Programming Language, algorithm and flowchart	6
3	Ch: 2 Introduction to C++ .	4
4	Ch:3 Selection Statements (if and switch)	4
5	Ch:4 Repetition Statements (for, while, do-While)	4
6	Ch:5 Arrays	6
Total		30

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Design algorithms to solve simple problems and understand general problem-solving strategies.	Lecture through online(LMS. Demo, Lab Sesions.	Quiz, Assignments, Exams
1.2	Understand how computer programming may be used to solve problems definition by example of C++ language.		
1.3	Understand various programming concepts such as control structures, methods, arrays, arguments, parameters etc.,		
2.0	**Skills**		
2.1	Write simple programs in C++	Lecture through	Quiz, Assignments,

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	language by using basic control structures (conditional statements, loops, switches, etc.).	online (LMS). Online Lab sessions.	Exams
2.2	Develop computer programs on C++ to express and implement algorithms to solve problems.		
3.0	**Values**		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Activities and Quizzes	1-8	20%
2	Electronic Examination I	11	20%
3	Electronic Examination II	12	20%
4	Practical	During the Semester	10%
5	Final Electronic Examination	At the End of the Semester	30%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

1. Instructors must attend their office hours and create Virtual classes using Blackboard.
2. Student can send email using Blackboard and the instructor must replay at most within 48 hours.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Teach yourself C++ by Jesse Liberty
Essential References Materials	C++ How to Program Deitel & Deitel Programming with C++ by Aikman Series
Electronic Materials	KING KHALID UNIVERSITY is providing online electronic learning and assessment software for the students and faculties. Students are provided time to time the names of Websites, such as en.wikipedia.org, www.thefreedictionary.com, search engines, etc .for their respective subject material
Other Learning Materials	Online tutorial. The course will contain practical works for some programming tools using Visual C++. online C++ compilers and CDs of the software are provided for students for their home PCs

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Visual C++. , online C++ compilers
Technology Resources (AV, data show, Smart Board, software, etc.)	Access to the internet.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students and faculty	A periodical questionnaire is to be given to the students for giving their feedback about a faculty and subject. forms to be filled with suggestions and issues from instructors by the end of every semester
Improvement of Teaching	faculty	Preparation of course report. Revision of course specification, based on previous semester course report
Verifying Standards of Student Achievement	Faculty	All the course activities are monitor by course coordinator. Several meeting in a semester (or via active Group discussion) for all course teachers and lab teachers. Update on course specification

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Calculus 1**
Course Code:	**101MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

رؤية VISION 2030 المملكة العربية السعودية KINGDOM OF SAUDI ARABIA

تميز NCSEE مسار MASAR اعتماد NCAAA قياس QIYAS

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A. Course Identification

1. Credit hours:	**5**
2. Course type	
a.	University ☐ College ☒ Department ☐ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**1st level / 1st year**
4. Pre-requisites for this course (if any)**:**	
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**5**	**60**
2	**Blended**	**NA**	**NA**
3	**E-learning**	**NA**	**NA**
4	**Distance learning**	**NA**	**NA**
5	**Other**	**NA**	**NA**

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**60**
2	**Laboratory/Studio**	**NA**
3	**Tutorial**	**NA**
4	**Others** (specify)	**NA**
	Total	**60**

B. Course Objectives and Learning Outcomes

Calculus 1 introduces students to very important concepts in mathematics. Students start by learning about equations and inequalities. Topics include functions and their domains, limits and the meaning of a limit, continuity, and derivatives.
Students learn techniques of differentiation, Roll's Theorem, and the mean value theorem. Furthermore, students learn some applications of derivatives. In particular, derivatives are used to study increasing and decreasing functions, concavity, maximum and minimum values of a function, and graphs of functions.

2. Course Main Objective

Introduce students to the basics of calculus.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the basic concepts of limits, continuity, and differentiability.	K1

CLOs		Aligned PLOs
1.2	Find and interpret the derivative of functions.	K2
1.3	Understand the geometric concepts of continuity and differentiability.	K1-K3
1.4	Study some applications of differentiation.	K4
2	**Skills :**	
2.1	Calculate limits and determine continuity for functions.	S1-S2
2.2	Perform differentiation correctly.	S1-S3
2.3	Study the continuity of a function at a point and interval.	S1-S4
2.4	Use Hospital's rule to find the limit of functions.	S2
2.5	Correctly use some famous theorems in calculus such as: Intermediate Value Theorem, Mean Value Theorem, and Fundamental Theorem of Calculus.	S1-S2
2.6	Sketch the graph of polynomials, trigonometric and rational functions.	S1-S2-S5
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	Basic notions (Sets of Numbers, intervals, absolute value)	**5**
2	Equations and Inequations.	**10**
3	Study of the properties of real functions (domain of definition, odd and even functions, injective surjective bijective functions, inverse function, compose function).	**10**
4	Limits.	**10**
5	Continuity	**5**
6	Derivatives, Chain rules, Higher order-derivatives - Main value theorem	**5**
7	Extrema, Increasing and decreasing function and the first derivative test, Concavity and the second derivative test.	**5**
8	Plot curves.	**10**
Total		**60**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand the basic concepts of limits, continuity, and differentiability.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Find and interpret the derivative of functions.		
1.3	Understand the geometric concepts of continuity and differentiability.		
1.4	Study some applications of differentiation.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.0	**Skills**		
2.1	Calculate limits and determine continuity for functions.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Perform differentiation correctly.		
2.3	Study the continuity of a function at a point and interval.		
2.4	Use Hospital's rule to find the limit of functions.		
2.5	Correctly use some famous theorems in calculus such as: Intermediate Value Theorem, Mean Value Theorem, and Fundamental Theorem of Calculus.		
2.6	Sketch the graph of polynomials, trigonometric and rational functions.		
2.7	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.8	Use e-learning to fill gaps in the course knowledge.		
2.9	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	**Weekly**	**30**
2	Midterm	**7 or 8**	**30**
4	Final exam	**13**	**40**

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	E. W. Swokowski, "**Calculus**", Boston, Mass. PWS Publishing, 1994.
Essential References Materials	• حساب التفاضل و التكامل- مدخل في حساب التفاضل- الجزء الاول. د.محمد عادل سودان واخرون. جامعة الملك سعود H. Anton, "Calculus with Analytic Geometry", 6th edition, Wiley,1998
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Calculus available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

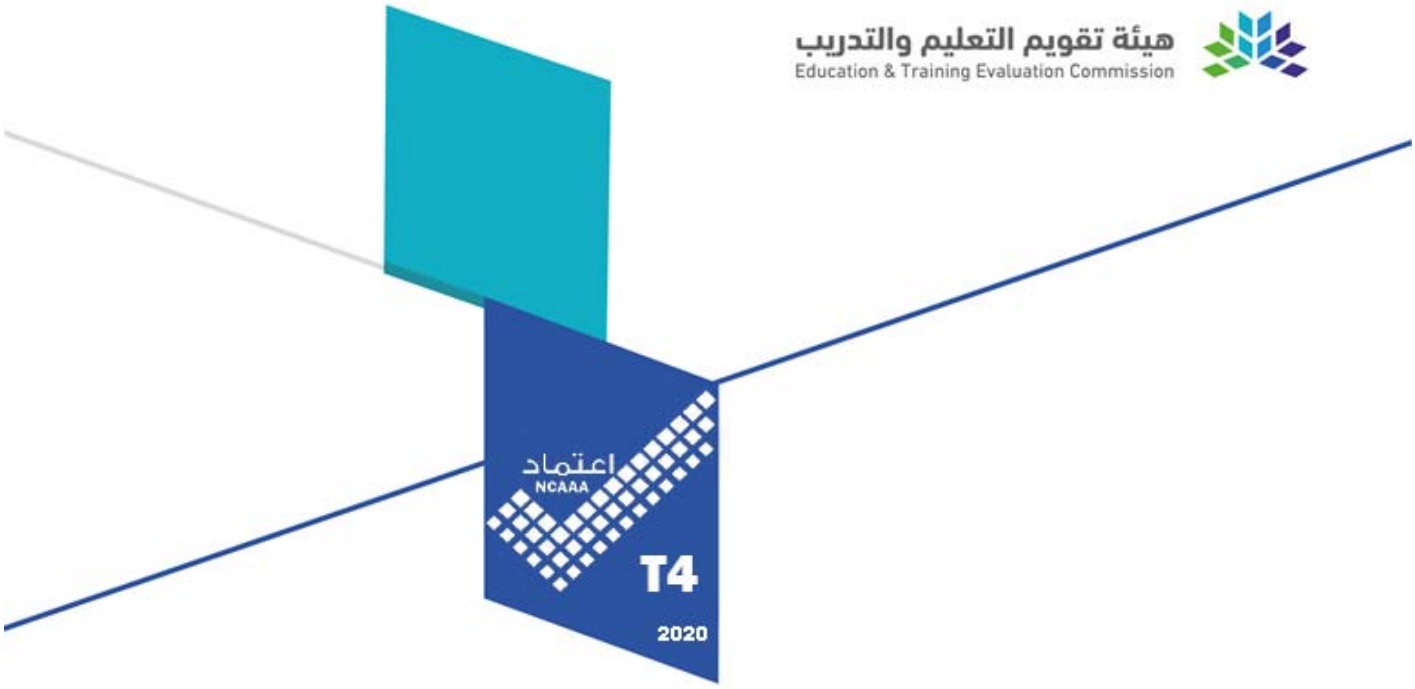
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	**General Chemistry- 1**
Course Code:	**101CHEM-6**
Program:	**Bachelor of Science in Chemistry**
Department:	**Chemistry**
College:	**Science**
Institution:	**King Khalid University**

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H. Specification Approval Data **8**

A. Course Identification

1. Credit hours: 6 (5+1)
2. Course type **a.** University ☐ College ■ Department ■ Others ☐ **b.** Required ■ Elective ☐
3. Level/year at which this course is offered: Level 2/ Year 1
4. Pre-requisites for this course (if any)**: none**
5. Co-requisites for this course (if any)**: none**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	5*12=60	83.3%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other (Practical)**	2*12=24	16.7 %

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	60
2	**Laboratory/Studio**	24
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	84

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers the basic principles and methods of chemistry, which are the foundation to all subsequent chemistry courses. This course surveys the metric system, scientific notation and significant figures, chemical formulas, chemical reactions and reaction stoichiometry, the atom and atomic structure, principles of chemical equilibrium, and fundamental of organic chemistry. Weekly laboratory experiments emphasize qualitative techniques and complement the lecture material.

2. Course Main Objective

Chemistry 101 is a general introduction to chemistry course that incorporates both lectures and laboratory experiments in developing and understanding chemical concepts and practices. The students will be able to:

- Understand the chemistry concepts.
- Differentiate between different types of matter.
- Identify the properties of gases, liquids and solids, intermolecular forces in liquids and solids.
- Explain the law of conservation of mass, the law of definite composition, and the law of multiple proportions.
- Perform mathematical operations involving significant figures.
- Summarize the essential points of atomic theories and describe the electronic configuration.
- Gain fundamental knowledge about the properties of solutions and chemical equilibrium.
- Identify a brief introduction to organic chemistry and natural molecules.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Outline the basis of the general chemistry, describe the atomic structure, periodic table, chemical equilibrium, solution concentration and colligative solution.	K1, K2
1.2	To identify the properties of gases, liquids and solids, intermolecular forces in liquids and solids	K3
2	**Skills :**	
2.1	To apply scientific notation, determining the accuracy of measurements, and observing the laws of moral numbers when making calculations containing measured quantities.	S1
2.2	To acquire knowledge of organic compounds and natural molecules	S1
2.3	To practice mathematical operations related to chemical reactions, molecular formula and conversion of mass.	S1, S3
2.4	Dealing with chemicals through the application of safety measures explain data from results of chemical analysis and write report.	S1, S2, S3, S4
3	**Values:**	
3.1	To learn scientific method and discuss issues by asking questions and answering them.	V1, V2
3.2	To acquire self-reliance in the work of homework and self-study.	V2, V3
3.3	To use computer at the solution of homework	V2, V3
3.4	To work effectively in diverse teams in laboratory sessions and acquire practical skills	V1, V2, V3, V4

C. Course Content

No	List of Topics	Contact Hours
1	Matter – Its Properties and Measurements: Types of Matter, Quantities and SI-units, Uncertainty and Significant Figures.	6

2	Chemical Compounds: Atoms and Isotopes, Atomic Mass, The Mole and The Avogadro's constant, Molecular Mass, Empirical Formula, Chemical Equations and Stoichiometry	10
3	Atoms and the Atomic Theories, nomenclature of inorganic compounds Properties of Light, Quantum Theory, Bohr's Model, Wave-Particle Duality, Uncertainty Principle, Quantum Numbers, Electronic Configuration.	10
4	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 Equation.	8
5	Liquids, 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.	8
6	Solutions and Their Physical Properties: Types of Solutions, Solution Concentration, Ideal Solutions and Non-ideal Solutions, Vapor Pressure of Solutions, Rault's Law, colligative properties.	6
7	Principles of Chemical Equilibrium: The Equilibrium Constant Expressions, Predicting the Direction of Net Change, Le Chatellier's Principle, Equilibrium Calculations Examples.	6
8	Organic Chemistry: Organic Compounds and Structures, Functional Groups. Types of organic reactions.	6
Total		60

Course Content (practical course):

No	List of Topics	Contact Hours
1	Identification the safety rules in laboratory	1
2	Identification the acidic radicals of the salts: group I (CO_3^{2-}, HCO^{3-}) and group II (Cl^-)	1
3	Identification the acidic radicals of the salts: group II (Br^-, I^-).	2
4	Identification the acidic radicals of the salts: group III SO_4^{2-}, PO_4^{3-}).	2
5	Identification the basic radicals of the salts: group I (Ag^+, Pb^{2+}) and group II (Cu^{2+}, Cd^{2+})	2
6	Identification the basic radicals of the salts group III (Al^{3+}, Fe^{3+}, Fe^+)	2
7	Identification the basic radicals of the salts group IV (Zn^{2+}, Ni^{2+}, Co^{2+})	2
8	Identification the basic radicals of the salts: group V (Ca^{2+}, Ba^{2+}, Sr^{2+}) and group VI (NH_4^+, K^+, Na^+)	2
9	Scheme for identification the acidic and basic radicals of the salts	2
10	Practice to identify the acidic and basic radicals of the salts	2
11	Determination the density of liquid and solid substances	2
12	Determination the viscosity of organic liquid	2
15	Exam.	2
Total		24

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Outline the basis of the general chemistry, describe the atomic structure, periodic table, chemical equilibrium, solution concentration and colligative solution.	Lectures, In class cooperative groups	Homework's Essay Questions. Multiple choice questions.
1.2	To identify the properties of gases, liquids and solids, intermolecular forces in liquids and solids	Lectures, In class cooperative groups	Homework's Essay Questions. Multiple choice questions.
2.0	**Skills**		
2.1	To apply scientific notation, determining the accuracy of measurements, and observing the laws of moral numbers when making calculations containing measured quantities.	Lectures, Problem solving	Homework's Essay Questions. Multiple choice questions.
2.2	To acquire knowledge of organic compounds and natural molecules	Lectures, In class cooperative groups	Homework's Essay Questions. Multiple choice questions.
2.3	To practice mathematical operations related to chemical reactions, molecular formula and conversion of mass	Lectures, Problem solving	Laboratory reports and exams.
2.4	Dealing with chemicals through the application of safety measures explain data from results of chemical analysis and write report.	Laboratory experiments	Laboratory reports and exams.
3.0	**Values**		
3.1	To learn scientific method and discuss issues by asking questions and answering them.	Interaction with the students and encourage them to discussion during lectures	Oral discussions during lectures
3.2	To acquire self-reliance in the work of homework and self-study.	Urged the students to accomplish their duties is collective self	Follow-up homework
3.3	To interact with others honestly and to be good creator	Interaction with the students and encourage them to discussion during lectures	Oral discussions during lectures
3.4	To use computer at the solution of homework	Using available search engines and Information Technology.	e-learning.

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Mid-term exam	6 th	20

#	Assessment task*	Week Due	Percentage of Total Assessment Score
	Midterm exam	6th	15
3	Homework	weekly	20
4	Practical tests	11th	25
5	Final exam	As scheduled	40
	Total		100 %

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :
10 office hours are offered for students for individual consultations. Communications are available on-site, phone conversations, and chatting by social media.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	ريموند تشانغ. الكيمياء العامة: المفاهيم الاساسية. الطبعة الأولى , مطبعة العبيكان,2014.
Essential References Materials	(Chang, Raymond. General chemistry: the essential concepts. First Edition, Obeikan Publishing,2014. Arabic language)
Electronic Materials	Catherine E. Housecroft, Edwin C. Constable, Chemistry: An Introduction to Organic, Inorganic and Physical Chemistry, Third Edition, Pearson Education Limited, 2006.
Other Learning Materials	Theodore L. Brown, H. Eugene LeMay, Jr, Bruce E. Bursten, Chemistry: The Central Science, tenth Edition, Pearson Education, Inc., 2006.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom (50 students)/ 3 hours (per week) Laboratories (25 students)/ 2 hours (per week)
Technology Resources (AV, data show, Smart Board, software, etc.)	Black board Ultra
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Chemistry Laboratory and Chemicals

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	Students	Questionnaire (indirect)
Effectiveness of teaching	Peer Reviewer	Report (indirect)
Effectiveness of assessment	Students	Questionnaire (indirect)

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Extent of achievement of course learning outcomes	Staff – Students - Program Leaders – Employers Graduates	Test (direct) Questionnaire (indirect)
Quality of learning resources	Students	Questionnaire (indirect)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Plan and curriculum committee Academic Development and Quality committee Department Council
Reference No.	7\1444
Date	16-3-1444

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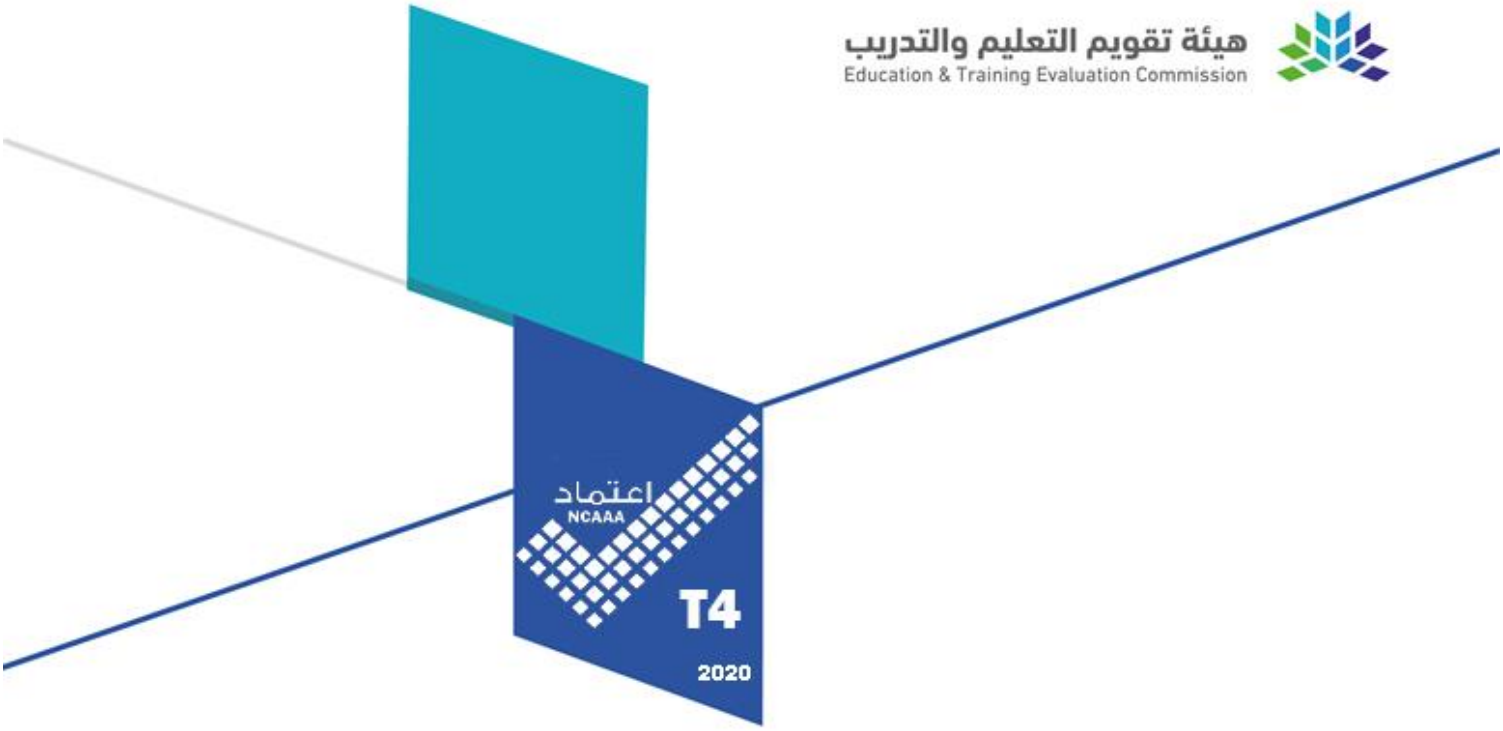
Education & Training Evaluation Commission



Course Specifications

Course Title:	**Introduction of Physics**
Course Code:	**101 PHYS-6**
Program:	**B. Sc.**
Department:	**Physics**
College:	**Science**
Institution:	**King Khalid University (KKU)**

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6. Mode of Instruction (mark all that apply) 3

B. Course Objectives and Learning Outcomes **3**

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C. Course Content (Theoretical Part) **4**

Course Content (practical Part) **4**

D. Teaching and Assessment **5**

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods 5

2. Assessment Tasks for Students ..... **Error! Bookmark not defined.**

E. Student Academic Counseling and Support **6**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **7**

B. Course Identification

1. Credit hours:	**6(5+1)**
2. Course type	
a.	University ☐ College ☐ Department ☑ Others ☐
b.	Required ☑ Elective ☐
3. Level/year at which this course is offered:	**1st level / 1st year**
4. Pre-requisites for this course (if any):	**No pre-requisites course**
5. Co-requisites for this course (if any):	**101Math**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**12×7 h/week**	100%
2	**Blended**	-	0
3	**E-learning**	-	0
4	**Correspondence**	-	0
5	**Other**	-	0

7. Actual Learning Hours (based on academic semester)

No	Activity	Learning Hours
Contact Hours		
1	**Lecture**	36
2	**Laboratory/Studio**	24
3	**Tutorial**	24
4	**Others (specify)**	0
	Total	84

*The length of time that a learner takes to complete learning activities that lead to achievement of course learning outcomes, such as study time, homework assignments, projects, preparing presentations, library times

B. Course Objectives and Learning Outcomes

1. Course Description

The course includes the basic concepts of physics as units, dimensions, vectors, Newtonian mechanics, fluid properties and fluids, principles of heat, static electricity, sound and light. It also includes a number of practical experiments covering all the basic concepts of physics.

2. Course Main Objective

The main purpose of this course is to:

- Introduce the basic concepts in physics such as unites and dimensions, vectors, principles of mechanics and motion in one dimension, Work, Power and energy, fluids mechanics, Elasticity, heat and properties of matters, ….
- Understand and analysis experimental results.
- Building relationships between physical phenomena and life, working in group,

communicate with other persons; do research in a specific field. How to describe a physical phenomenon by mathematical equation
- Acquire the skills of drawing, analysis, and interpretation through performing a number of physical experiments in the laboratory.

3. Course Learning Outcomes

	CLOs	Aligned
1	**Knowledge: The students should be able to:**	
1.1	Identify unites and dimensions and also scalar and vector quantities	K1
1.2	Recognize some concepts, and physical quantities	K1
1.3	Memorize basic physical principles of Classical Mechanics and Heat transfer	K1
2	**Skills: The students should be able to:**	
2.1	Investigate, analysis and interpret basic physics experiments.	S1
2.2	Operate basic Laboratory equipment, collect, analyze, and plot data, write results and draw conclusions in a submitted report.	S1, S2
3	**Values: The students should be able to:**	
3.1	Work with other as a part of a team to collect data and/or to produce reports and presentations.	V2
3.2	Improve self-learning through write practical reports.	V1

C. Course Content (Theoretical Part)

No	List of Topics	Contact Hours
1	Dimensions, and units of physical quantities.	5
2	Vectors, speed, velocity and acceleration.	7
3	Newton's laws of motion.	10
4	Energy, work, power, and energy conservation	10
5	Elasticity, young modulus.	5
6	Mid Exam	2
7	Thermal properties of matters, temperature, heat transfer, thermal expansion	6
8	Properties of Static Fluids, pressure in a liquid, manometer and barometer	5
9	Properties of Dynamic Fluids, flux, Bernoulli theorem and applications	5
!0	Recapitulation-review exercises	5
Total		60

C.Course Content (practical Part)

No	List of Topics	Contact Hours
3	Measurements	2
4	Simple Pendulum	2
4	Pendulum spring 1,2	2
6	Surface tension	2

7	Viscosity of liquids	2
9	Specific heat of solid materials	2
10	Ohm's law	2
11	Refraction of index of glass	2
12	Lenses	2
13	Mirrors	2
14	Final Exam	4
Total		24

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and understand**		
1.1	Identify unites and dimensions and also scalar and vector quantities	Class lectures e-learning methods lab's experiments	Periodic examines Laboratory reports Homework assignments
1.2	Recognize some concepts, and physical quantities		
1.3	Memorize basic physical principles of Classical Mechanics and Heat transfer		
2.0	**Skills**		
2.1	Investigate, analysis and interpret basic physics experiments.	Class lectures Group discussion Lab's experiments	Written examine Research assignments Homework assignments Reports
2.2	Operate basic Laboratory equipment, collect, analyze, and plot data, write results and draw conclusions in a submitted report.		
3.0	**Values**		
3.1	Work with other as a part of a team to collect data and/or to produce reports and presentations.	Self-study Scientific discussion in group Lab's experiments	Explain and discover an interactive discussion continuous observation
3.2	Improve self-learning through write practical reports.		

2. Assessment Tasks for Students (theoretical part 75 degrees

#	Assessment task*	Week Due	Percentage of Total Assessment Score (75 degrees)
2	Homework+ class short exams	Fourth times in semester	20%
3	Mid-Term	The fifth week	25%
4	Computerize short exams	Third times in semester	15%
5	Final examination	At the end of the semester	40%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

Assessment Tasks for Students (Practical part 25 degrees)

#	Assessment task*	Week Due	Percentage of Total Assessment Score (25 degrees)
1	Practical part (Reports& Final Practical Exam)	Every week	30%
2	Midterm	5th week	20%
	Computerize short exams	Through the semester	10%
4	Final practical examination	10th week	40%

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

The weekly workload of every faculty includes 10 hours of office hours meant for individual student consultations. Students are encouraged to consult the teacher if any problem is related to the lectures/Assignment/Homework/Exercises.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Hugh D. Young, Roger A. Freedman, University Physics with Modern Physics, 14th Edition, (2016),
Essential References Materials	Raymond A. Serway, Physics for Scientists and Engineers, 9th Edition, (2004), Thomson Brooks. Pearson Education. ISBN 13: 9780321982582
Electronic Materials	Select electronic lectures on the practical general physics.
Other Learning Materials	No other learning materials

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	A classroom with its facilities that accommodates forty students and General physics lab
Technology Resources (AV, data show, Smart Board, software, etc.)	Web and smart board.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Nothing else

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Direct (A questionnaire)

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Extent of achievement of course learning Outcomes	Instructor	Indirect (Rapporteur report)
	The Measurement and Evaluation Committee	
	The Development and Quality Committee of the physics Department and collage science	
Quality of learning resources	Technical Committee and equipment	Direct (Check the quality of devices and equipment periodically)
	Plans and Curricula Committee of physics department.	Indirect (Self-evaluation report)

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning Outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	Physics department Council
Reference No.	The meeting No. 11 for the academic year 1439-1440,the recommendation No. 6-11-39/40
Date	8-6-1440

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

445MATH-5

Course Specifications

Course Title:	**Calculus 2**
Course Code:	**202MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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2. Course Main Objective 3

3. Course Learning Outcomes 4

C. Course Content **4**

D. Teaching and Assessment **5**

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods 5

2. Assessment Tasks for Students 5

E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours:	**5**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**4th level / 2nd year**
4. Pre-requisites for this course (if any)**:**	**101MATH-5**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**5**	**60**
2	**Blended**	**NA**	**NA**
3	**E-learning**	**NA**	**NA**
4	**Distance learning**	**NA**	**NA**
5	**Other**	**NA**	**NA**

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	60
2	**Laboratory/Studio**	NA
3	**Tutorial**	NA
4	**Others** (specify)	NA
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course introduces students to the basics of integration. It starts with a quick review of derivatives then students learn about antiderivatives of a function. Then students learn some elementary functions which were not covered in Calculus 1 such as exponential and inverse trigonometric functions. Moreover, various integration methods are introduced. Applications of integration are introduced such as finding area, volume, and arc length.

2. Course Main Objective

Analyze the relationship between differentiation and integration, calculate integrals of basic functions, find area and volume, and compare different integration methods and justify the choice for each method.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand differences between integration methods.	K1
1.2	State and recognize properties of elementary functions.	K2
1.3	Write integrals as the opposite process of differentiation.	K3
1.4	Outline the applications of integration.	K4
2	**Skills :**	
2.1	Solve basic integrals.	S1
2.2	Recognize integrals in terms of area and use integrals to find area under curves	S3
2.3	Choose and use different integration methods.	S4
2.4	Justify the choice of an integration method for a particular integral.	S2
2.5	Use the properties of elementary functions to find integrals	S1
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	**A general review of knowledge learned in Calculus 1 (101Math-3):** • Differentiation rules Studying and drawing functions using first and second derivative	**10**
2	**Anti-derivatives and integrals:** • Integration and differential equations • Definite and indefinite integration, Riemann sums and integral • Relation between area and integration • Mean value theorem and the fundamental theorem of calculus. Integration by basic substitution (change of variables)	**15**
3	**Applications of integration:** • Area bounded by a set of curves. • Types of areas: Rx and Ry • Rotational volumes Arc length and surface area of rotational volume	**15**
4	**Inverse functions and some elementary functions** • Injective, surjective, and bijective functions • Inverse function • Logarithmic function • Exponential function • Inverse trigonometric functions Hyperbolic functions, inverse hyperbolic functions	**10**
5	**Integration methods:** • Integration by parts • Integration using trigonometric substitution and completing the square.	**10**

	Integration of rational functions.	
Total		**60**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand differences between integration methods.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	State and recognize properties of elementary functions.		
1.3	Write integrals as the opposite process of differentiation.		
1.4	Outline the applications of integration.		
2.0	**Skills**		
2.1	Solve basic integrals.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Recognize integrals in terms of area and use integrals to find area under curves.		
2.3	Choose and use different integration methods.		
2.4	Justify the choice of an integration method for a particular integral.		
2.5	Use the properties of elementary functions to find integrals		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	**Weekly**	**30**
2	Midterm	**7 or 8**	**30**
3	Final exam	**13**	**40**

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	E. W. Swokowski, M. Olinick, D. Pence & J. A. Cole, "**Calculus**", 6th Edition, PWS Publishing Company, Boston. 1994.
Essential References Materials	• R. A. Hunt, "**Calculus with Analytic Geometry**", Harper and Row Publisher, 1988. H. Anton, "**Calculus with Analytic Geometry**", 6th edition, Wiley,1998.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Calculus available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Mathematical Statistics**
Course Code:	**212STAT-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

D. Teaching and Assessment **4**

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods 4

2. Assessment Tasks for Students 5

E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours: 4
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered: 6th level / 2nd year
4. Pre-requisites for this course (if any)**: 211STAT-5**
5. Co-requisites for this course (if any)**: None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	75
2	Blended	1	25
3	E-learning	NA	NA
4	Distance learning	NA	NA
5	Other	NA	NA

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	48
2	Laboratory/Studio	NA
3	Tutorial	NA
4	Others (specify)	NA
	Total	48

B. Course Objectives and Learning Outcomes

1. Course Description

This course aims to provide basics of the estimate's theory and the hypotheses tests, which provide the statistical inference methods. This course also discusses the traditional and the Bayesian ways in statistics to accustom students to think logically deep in the statistical analysis methods.

2. Course Main Objective

Introduce students to the methods of the statistical inference.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the difference between the parameters and the estimates.	K1

CLOs		Aligned PLOs
1.2	State the test of hypothesis (one sample and two samples).	K2
1.3	Define ANOVA (one way and two-way classification) and some continuous distributions in addition to the sufficient statistics.	K3
1.4	Outline The probability distribution of a given statistic based on a random sample.	K4
2	**Skills :**	
2.1	Explain the difference between Type I and Type II errors and how these relate to the size and power of a test.	S1
2.2	Summarize how a hypothesis test and a confidence interval are related.	S2
2.3	Interpret the results of hypothesis tests with a specific level of confidence.	S4
2.4	differentiate between the statistics tables and calculated statistics.	S3
2.5	Analyze statistical methods to estimate the parameters of population.	S5
3	**Values:**	
3.1	Adheres to Islamic values and excellence in professional practices.	V1
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V2
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.	V3

C. Course Content

No	List of Topics	Contact Hours
1	**Probability distributions:** Normal distribution, chi-squared distribution, T-distribution, and F-distribution.	9
2	Sampling distribution: Sampling distribution of the mean, difference of two means, proportion, difference of two proportion, variance, and Fisher with Two Sample Variances.	10
3	**Point and Confidence intervals Estimation:** Point Estimate and Confidence Interval Estimate for mean, difference of two means, proportion, difference of two proportion, variance, and Fisher with Two Sample Variances.	13
4	**Tests of Hypothesis:** Test on the mean, the difference of two means, the proportion, the difference of two proportion, the variance.	10
5	Analysis of variance	6
Total		48

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand the difference between the parameters and the estimates.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	feedback on written work and homework.
1.2	State the test of hypothesis (one sample and two samples).		
1.3	Define ANOVA (one way and two-way classification) and some continuous		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	distributions in addition to the sufficient statistics.		
1.4	Outline The probability distribution of a given statistic based on a random sample.		
2.0	**Skills**		
2.1	Explain the difference between Type I and Type II errors and how these relate to the size and power of a test.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment
2.2	Summarize how a hypothesis test and a confidence interval are related.		
2.3	Interpret the results of hypothesis tests with a specific level of confidence.		
2.4	differentiate between the statistics tables and calculated statistics.		
2.5	Analyze statistical methods to estimate the parameters of population.		
3.0	**Values**		
3.1	Adheres to Islamic values and excellence in professional practices.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.		
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	8	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice :

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Tharwat Abdel Moneim "**A Modern Introduction to Statistics and Probability**" Obeikan Library (2013. ثروت عبد المنعم "**مدخل حديث للإحصاء والاحتمالات**" مكتبة العبيكان (2013)
Essential References Materials	
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on mathematical statistics available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors.	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Linear Algebra 1**
Course Code:	**242MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

D. Teaching and Assessment **5**

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E. Student Academic Counseling and Support **6**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours:	**5**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**6th level / 2nd year**
4. Pre-requisites for this course (if any)**:**	**232MATH-5**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**3**	**60**
2	**Blended**	**2**	**40**
3	**E-learning**	**--**	**--**
4	**Distance learning**	**--**	**--**
5	**Other**	**--**	**--**

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**60**
2	**Laboratory/Studio**	**--**
3	**Tutorial**	**--**
4	**Others** (specify)	**--**
	Total	**60**

B. Course Objectives and Learning Outcomes

1. Course Description

In this course we study, algebraic operations of matrices, elementary transformations on matrices and their applications. Reductions rows on matrices and their applications. Determinant and manual calculations, algebraic properties of determinant, methods of computing inverse of matrix. Homogeneous linear systems and nonhomogeneous and manual resolution.

2. Course Main Objective

Study the operations of matrices and the properties of matrices and use it to solve linear homogeneous and nonhomogeneous system of equations.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the operations of matrices and their properties.	K1-K2
1.2	Know the operations on rows of matrices and their applications.	K1-K3-K4

CLOs		Aligned PLOs
1.3	Describe the determinant of a matrix and calculate it.	K1-K3
1.4	Memorize how to solve homogeneous and nonhomogeneous systems of equations.	K3-K1
2	**Skills :**	
2.1	Use operations of matrices and the operations on rows of matrices to find the inverse of matrix.	S1-S2
2.2	Calculate the inverse of matrix and use it to solve systems of linear equations.	S1-S5
2.3	Solve the homogeneous and nonhomogeneous linear system.	S2-S4
2.4	Abele to find the eigenvalues and eigenvectors of a matrix its applications.	S2
2.5	Use the definitions and properties of matrices to solve same mathematics problems.	S1-S3
3	**Values:**	
3.1	Adheres to Islamic values and excellence in professional practices.	V1
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V2
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.	V3

C. Course Content

No	List of Topics	Contact Hours
1	**Matrices:** • Matrices (coefficients, columns, rows, size, symmetry, equality, transpose, zero matrix). • Operations on matrices (addition, subtraction, scalar multiplication, multiplication of two matrices) and their properties. Square matrix (diagonal, matrix power, Identity matrix).	15
2	**Systems of linear equations and Matrices:** • Gaussian elimination method. • Gauss- Jordan elimination method • Homogeneous system of linear equation. Nonhomogeneous system of linear equation.	15
3	**Determinants:** • Evaluating determinant by row reduction Properties of determinant function.	10
4	**Inverse of Matrices:** • Elementary matrices and method of finding the inverse of matrix. • Properties of the inverse of matrices. Using the inverse of a matrix to solve a system of equations.	10
5	**Eigenvalues and Eigenvectors:** • Characteristic polynomial. • Eigenvalues and eigenvectors of a square matrix. Cayley-Hamilton theorem and application to the matrix inverse.	10
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand the operations of matrices and their properties.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Know the operations on rows of matrices and their applications.		
1.3	Describe the determinant of a matrix and calculate it.		
1.4	Memorize how to solve homogeneous and nonhomogeneous systems of equations.		
2.0	**Skills**		
2.1	Use operations of matrices and the operations on rows of matrices to find the inverse of matrix.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment
2.2	Calculate the inverse of matrix and use it to solve systems of linear equations.		
2.3	Solve the homogeneous and nonhomogeneous linear system.		
2.4	Ability to find the eigenvalues and eigenvectors of a matrix its applications.		
2.5	Use the definitions and properties of matrices to solve same mathematics problems.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Adheres to Islamic values and excellence in professional practices.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.		
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice: • 10 weekly office hours held by the course instructor. • Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	• KOLMAN, B., Introductory Linear Algebra with Applications (Macmillan, 1976). • د/ معروف سـمحان, د/ علي السـحيباني و د/ فوزي الذكير. الجبر الخطي و تطبقاته. مطبعة العبيكان 2016.
Essential References Materials	L. Johnson, D. Riess, J. Arnold. Introductory Linear Algebra. Pearson; 5th edition (March 7, 2017).
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Linear Algebra available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	**19-3-1444**

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Computer Programming for Mathematics**
Course Code:	**251MATH-3**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

D. Teaching and Assessment **4**

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2. Assessment Tasks for Students 4

E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 5

2. Facilities Required 5

G. Course Quality Evaluation **5**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**2+1**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**6th level / 2nd year**
4. Pre-requisites for this course (if any):	**102CMS-3**
5. Co-requisites for this course (if any):	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	2	50
2	Blended	--	--
3	E-learning	--	--
4	Distance learning	--	--
5	Other (Practical)	2	50

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	24
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (Practical)	24
	Total	48

B. Course Objectives and Learning Outcomes

1. Course Description

This course study programming with MATLAB for mathematics. It will focus on MATLAB environment; Operations on vectors and matrices; Files and functions; Program writing: building and designing algorithms; Draw; Symbolic calculation; Mathematical applications: linear algebra - polynomials - statistics - numerical differentiation - numerical integration - etc.

2. Course Main Objective

Solve some mathematical problems using programming and software like MATLAB.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Describe MATLAB environment	K3
1.2	Classify operations on matrices and vectors.	K3

CLOs		Aligned PLOs
1.3	Description of methods for solving math problems on MATLAB.	K3
1.4	Outline the error associated with the algorithms.	K4
2	**Skills :**	
2.1	Use the basics of the MATLAB environment.	S2
2.2	Choose and use methods of MATLAB to solve mathematical problems.	S2
2.3	Write and test algorithms.	S4
2.4	Analyze the error associated with the algorithms and the ability to solve it.	S3
2.5	Write and implement algorithms to solve different numerical issues.	S5
3	**Values:**	
3.1	Communicate effectively.	v1
3.2	Use e-learning to fill gaps in the course knowledge.	v1
3.3	Work effectively, both independently and as part of a group.	v2
3.4	Adheres to Islamic values and excellence in professional practices.	v3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	v4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	v5

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Algorithm	**4**
2	MATLAB and problem-solving.	**4**
3	Array and matrix operations	**4**
4	M-Files, Functions and Script files	**6**
5	Programming with MATLAB	**8**
6	Plotting and model building	**4**
7	**Mathematical Applications:** Linear algebraic equations, Probability, Statistics, Interpolation, Numerical Calculus, Differential equations	**18**
Total		**48**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Describe MATLAB environment.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Classify operations on matrices and vectors.		
1.3	Describe methods for solving math problems on MATLAB.		
1.4	Outline the error associated with the algorithms.		
2.0	**Skills**		
2.1	Use the basics of the MATLAB environment.	Tutorials, Group working, problem-solving, discussion, feedback on	Exams, tutorials, supervision, presentations, feedback on written
2.2	Choose and use methods of MATLAB to solve mathematical problems.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.3	Write and test algorithms.	written work, exam papers, critical assessment, peer assessment, self-assessment.	work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.4	Analyze the error associated with the algorithms and the ability to solve it.		
2.5	Write and implement algorithms to solve different numerical issues.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Adheres to Islamic values and excellence in professional practices.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.		
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7 or 8	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	A. Gilat, "**MATLAB An Introduction with Applications**", 3rd Ed., JOHN WILEY & SONS (2008).
Essential References Materials	• S. Attaway, "**MATLAB A Practical Introduction to Programming and Problem Solving**", 2nd Ed., Butterworth-Heinemann, Elsevier (2012). • D. McMahon, "**MATLAB Demystified**", McGraw-Hill Companies (2007). • **MATLAB Getting Started Guide**, by The MathWorks, Inc. • **MATLAB Mathematics**, by The MathWorks, Inc. • B. R. Hunt, R. L. Lipsman, J. M. Rosenberg, "**A Guide to MATLAB**", Cambridge University Press (2001).

	• S. J. Chapman, "**Essentials of MATLAB Programming**", 2nd Ed., Cengage Learning (2009). B. D. Hahn and D. T. Valentine, "**Essential MATLAB for Engineers and Scientists**", 4th Ed., (2010).
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on MATLAB available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Introduction of Differential Equations**
Course Code:	**263MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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D. Teaching and Assessment **5**

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F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

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H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**5**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**6th level / 2nd year**
4. Pre-requisites for this course (if any)**:**	**202MATH-3**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	60
2	Blended	2	40
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	60
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

In this course students study ordinary differential equations and classify them based on rank and degree. Also, students will be taught different methods of solving first order differential equations and different methods to solve higher order ordinary differential equations.

2. Course Main Objective

Introduce mathematics' students to different types of ordinary differential equations and the different methods of solutions.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify the types of differential equations concepts such as degree and order of the equation	K1

CLOs		Aligned PLOs
1.2	Identify methods to solve first order differential equations and their implementation in different applications	K2
1.3	Solve a differential equation of the first order by using the appropriate method	K3
1.4	Identify the differential equations of higher order with constant coefficients homogeneous/non homogeneous equations, boundary value problems, the concept of linear independent functions, Wronskian and principle of superposition and the general solution	K4
1.5	Identify concept of differential operator and its properties and use it to solve differential equations	K5
2	**Skills :**	
2.1	The ability to connect theoretical study of reality through the study of some engineering models and applied mathematics	S1
2.2	The ability to determine the appropriate method to solve differential equations	S2
2.3	The ability to search in the literature and web pages and find the information related to the topics scheduled	S3
2.4	The ability to interpret the solution of physical problem	S4
3	**Values:**	
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required	V1
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.	V2
3.3	Use learning resources such as lecture textbooks, website and scientific literatures.	V3

C. Course Content

No	List of Topics	Contact Hours
1	**Preliminary definitions of differential equations**: Definition of differential equations, order, and type of differential equations. Definition of initial value problem, and theory of existence and uniqueness of solution.	**5**
2	**First order differential equations:** Separable values, homogenous equations, exact equations, linear equations, integrating factor, Bernoulli and Ricatti equations.	**25**
3	**Second order differential equations:** Linear dependence and linear independence, Wronskian function, fundamental set of solution, reduction of order, homogenous linear equation with constant coefficients, undetermined coefficient method, differential operator, method of differential operator, variation of parameters.	**20**
4	**Differential equations with variable coefficients:** Cauchy equation, solution of differential equations using power series method about ordinary and singular points.	**10**
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Define differential equations.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Recall the definition of order and degree of differential equations.		
1.3	List different methods to solve ordinary differential equations.		
1.4	Write a solution to an ordinary differential equation.		
2.0	**Skills**		
2.1	Solve analytically a first order differential equation.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Differentiate between order and degree of a given differential equation.		
2.3	Choose appropriate method to solve ordinary differential equation.		
2.4	Explain different methods to solve higher order differential equations.		
2.5	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.6	Use e-learning to fill gaps in the course knowledge.		
2.7	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	partial exam	7	30
4	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**D. G. Zill, "A first course in differential equations", 9th ed, (2009).**
Essential References Materials	D.G. Zill and M.R. Cullen, "Differential Equations with Boundary Value Problems", 9th Ed., Brooks/Cole, (2009).
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on ordinary differential equations available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	

Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

445MATH-5

Course Specifications

Course Title:	***Vector Calculus***
Course Code:	**304MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

D. Teaching and Assessment **5**

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F. Learning Resources and Facilities **6**

1.Learning Resources 6

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G. Course Quality Evaluation **6**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours:	5
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	7th level / 3rd year
4. Pre-requisites for this course (if any):	203MATH
5. Co-requisites for this course (if any):	None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	60
2	Blended	2	40
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	60
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

The course introduces classical vector analysis. Topics discussed are: Vectors in two and three dimensions- scalar and vector products- equations of lines and planes in 3-dimensional space- Surfaces of revolution and their equations in cylindrical and spherical coordinates- Vector valued functions of a real variable- curves in space- curvature - directional derivatives- Gradient of a function- Application to equations of normal and tangent space to a surface at a point- Vector fields- divergence- curl of a vector- line and surface integrals- Green's theorem- Gauss' divergence theorem- Stock's theorem ; and applications.

2. Course Main Objective

Introduce and develop the methods of vector analysis and their applications.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Define equations of lines and planes in three dimensions and describe surfaces of revolution and their equations in cylindrical and spherical coordinates.	K1
1.2	Define vector-valued functions (Domains-continuity-Differentiability-Integrals).	K1, K2
1.3	Recognize vector fields and vector calculus, and define Gradient, Divergence and Curl, as well as conservative fields.	K3
1.4	Define equations of tangent planes and normal lines to surfaces, directional derivatives.	K3
1.5	Recognize line integrals and surface integrals and state the famous theorems of Green-Gauss-Stokes.	K2, K4
2	**Skills :**	
2.1	Write equations of lines and planes in three dimensions and surfaces of revolution and their equations in cylindrical and spherical coordinates.	S1
2.2	Explain the properties of vector-valued functions (Domains-continuity-Differentiability-Integrals) and evaluate the curvature of a given curve at a specific point.	S3
2.3	Analyze the vector fields: Gradient, Divergence and Curl.	S1, S3
2.4	Write the equations of tangent planes and normal lines to surfaces and calculate directional derivatives.	S1
2.5	Calculate line integrals and surface integrals and justify the use of the famous theorems of Green-Gauss-Stokes.	S4
2.6	Communicate effectively.	S6
2.7	Use e-learning to fill gaps in the course knowledge.	S7
2.8	Work effectively, both independently and as part of a group.	S8
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	Vectors in two and three dimensions. Scalar and vector products.	**10**
2	Equations of lines and planes in three dimensions.	**10**
3	Surfaces of revolution and their equations in cylindrical and spherical coordinates.	**5**
4	Vector-valued functions of a real variable, Curves in space, Curvature.	**5**
5	Gradient of a multiple variable function, equations of tangent plane and normal line to a surface at a point, Directional derivatives.	**10**
6	Vector fields, Divergence and curl of a vector field, Line and surface integrals.	**10**
7	Green's theorem, Gauss' divergence theorem, Stokes' theorem.	**10**

Total	60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Define equations of lines and planes in three dimensions and describe surfaces of revolution and their equations in cylindrical and spherical coordinates.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Define vector-valued functions (Domains-continuity-Differentiability-Integrals).		
1.3	Recognize vector fields and vector calculus, and define Gradient, Divergence and Curl, as well as conservative fields.		
1.4	Define equations of tangent planes and normal lines to surfaces, directional derivatives.		
1.5	Recognize line integrals and surface integrals and state the famous theorems of Green-Gauss-Stokes.		
2.0	**Skills**		
2.1	Write equations of lines and planes in three dimensions and surfaces of revolution and their equations in cylindrical and spherical coordinates.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Explain the properties of vector-valued functions (Domains-continuity-Differentiability-Integrals) and evaluate the curvature of a given curve at a specific point.		
2.3	Analyze the vector fields: Gradient, Divergence and Curl.		
2.4	Write the equations of tangent planes and normal lines to surfaces and calculate directional derivatives.		
2.5	Calculate line integrals and surface integrals and justify the use of the famous theorems of Green-Gauss-Stokes.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Midterm Exam	7	30
3	Final exam	12	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Colley, Susan Jane," Vector Calculus", 3rd edition. Upper Saddle River, NJ: Pearson Prentice Hall, 2006.
Essential References Materials	• W. Swokowski, "PWS Publishing Company, Boston, 1994. B. Spain, "Elementary Vector Analysis"
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Vector Calculus available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	1-4-1444

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Applied Mathematics**
Course Code:	**361MATH-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

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E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**4**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**7th level / 3rd year**
4. Pre-requisites for this course (if any)**:**	**202MATH-4**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	75
2	Blended	1	25
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	48
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	48
Other Learning Hours*		
1	Study	30
2	Assignments	20
3	Library	10
4	Projects/Research Essays/Theses	--
5	Others (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course state three different mechanics: Newtonian, Lagrangian, and Hamiltonian mechanics, and present solution methods for some physical phenomena. It consider motion in different situations and study rigid body motion.

2. Course Main Objective

Introduces applications of mathematics in Newtonian, Lagrangian, and Hamiltonian mechanics.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize Lagrangian equations to find the motion of simple Pendulum. Recognize the velocity and acceleration of the particle motion and describe the motion.	K1
1.2	Recognize the acceleration, velocity, positions of the motion to find the velocity and positions from the acceleration. Recognize the motion in plane with polar coordinates. Recognize the motion of the bodies in rotational motion.	K1
2	**Skills :**	
2.1	Find the governing laws for the central force for a particle motion in the central track. Find the Hamilton function and equations for particle motion in space Find the velocity and acceleration of the motion in a plane.	S1
2.2	Recognize Newton-law to describe the motion of variable mass Find the generalized forces for the complex pendulum.	S3
3	**Values:**	
3.1	Work in group effectively	V1
3.2	Use oral and discussion skills	V2
3.3	Use of internet resources, e-learning, and communication using blackboard	V3

C. Course Content

No	List of Topics	Contact Hours
1	**Rectilinear motion of a particle**: Displacement, velocity, acceleration, forces, and equation of motion. Uniform acceleration under constant force. Equation of motion for resistance forces.	**6**
2	**Motion with variable mass:** Rocket motion. Falling raindrop.	**4**
3	**Central motion and its application.**	**6**
4	**Planar motion:** Displacement, velocity, angular velocity and acceleration in Cartesian, Polar, and Intrinsic coordinates.	**6**
5	**Three-dimensional motion:** Accelerated coordinates systems and inertial forces. Velocity and acceleration in rotating system.	**6**
6	**Moments of inertia.**	**6**
7	**Rigid body motion.**	**6**
8	**Introduction to Lagrangian mechanics.**	**8**
	Total	**48**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Describe the basic concepts of Newton mechanics.	Lectures, up-to-date textbooks, hand-outs,	Exams, tutorials, supervision,

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	Memorize the concepts of the generalized coordinates and generalized forces.	develop skills in using library and other learning resources, use of the Internet.	presentations, essays, feedback on written work and homework.
1.3	List the basic equations of Lagrange mechanics.		
1.4	Outline the main concepts of Rigid body motion.		
2.0	**Skills**		
2.1	Interpret analytical solution of mathematical problem in scientific way.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Solve some mathematical model.		
2.3	Develop mathematical model for some physical phenomena.		
2.4	Summarize motion equations in Lagrange mechanics.		
2.5	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.6	Use e-learning to fill gaps in the course knowledge.		
2.7	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	D. Kleppner, R.Kolenkow, "**An Introduction to Mechanics**", Second Edition, Cambridge University Press, (2014).
Essential References Materials	• J. Taylor, "**Classical mechanics**", University Science Book (2005). • G.R. Fowles, G.L. Cassiday, "**Analytical Mechanics**", 7th Ed, Thomson Learning, Inc.Thomson (2005).
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on analytical mechanics available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	**22-3-1444**

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Real Analysis 1**
Course Code:	**322MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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G. Course Quality Evaluation **7**

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A. Course Identification

1. Credit hours:	5
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**8th level / 3rd year**
4. Pre-requisites for this course (if any)**:**	**203MATH-5**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**3**	**60**
2	**Blended**	**2**	**40**
3	**E-learning**	--	--
4	**Distance learning**	--	--
5	**Other**	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**60**
2	**Laboratory/Studio**	--
3	**Tutorial**	--
4	**Others** (specify)	--
	Total	**60**

B. Course Objectives and Learning Outcomes

1. Course Description

This course prepares the student for more advanced courses in analysis as well as showing the utility of abstract concepts and teaches an understanding and construction of proofs. Topics covered are: Basic set theory. The real numbers and their basic properties. Students also learn sequences: convergence, subsequences, Cauchy sequences. The last part covers the topic of functions, limits, continuity, and differentiability in one variable, the L'Hôpital's Rule, the Taylor's, and the Mean Value Theorems.

2. Course Main Objective

Revisit the topics of calculus, but from a rigorous point of view. The course is intended as rigorous proof of the Fundamental Theorems of Calculus.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	List of axioms of real numbers and their properties. Outline the completeness property.	K1,K3
1.2	Define sequences and their limits. List limit theorems. Define monotone sequences. State the Cauchy criterion. Outline the Bolzano-Weierstrass theorem. Define subsequences, open and closed sets.	K2,K3
1.3	Recall the limits of functions. List limit theorems. Describe the Limit concept. Define monotone functions. Describe continuous functions, and continuous functions on intervals.	K1,K3,K4
1.4	Outline the concept of derivative and list its properties. State the Mean-Value Theorem, and L'Hospital's Rule.	K4
2	**Skills :**	
2.1	Recognize natural numbers, integers, rational numbers. Explain completeness property.	S1,S2
2.2	Summarize sequences and their limits, limit theorems, monotone sequences, sub-sequences, open and closed sets. Analyze the Cauchy criterion and the Bolzano-Weierstrass theorem.	S2,S3
2.3	Summarize the concepts of limits of functions, limit theorems, and monotone functions.	S3
2.4	Recognize continuous functions, and continuous functions on intervals.	S3,S4
2.5	Develop the concept of derivative. Explain the Mean-Value Theorem, and L'Hospital's Rule.	S4
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	**Real numbers:** Standars sets of numbers, algebraic axioms, order properties, the absolute value and the real line, bounded sets, completeness axiom, Archimedes property, density of rationals in reals, set of extended real numbers, intervals.	**15**
2	**Sequences of real numbers:** Limit of a sequence, divergence to infinity, bounded sequences, laws of limits, monotone sequences, subsequences, Bolzano-Weierstrass Theorem, Cauchy sequences.	**15**
3	**Limits and continuity of real functions:** Laws of limits, limits at infinity, operations on continuous functions, bounded functions, extremum value Theorem, intermediate value Theorem, uniform continuity, monotone and inverse functions.	**18**
4	**Differentiable functions:**	**12**

	Rules of differentiability, Rolle Theorem, mean value Theorem and its consequences, L'Hospital's Rule, Taylor Theorem.	
Total		**60**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	List of axioms of real numbers and their properties. Outline the completeness property.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Define sequences and their limits. List limit theorems. Define monotone sequences. State the Cauchy criterion. Outline the Bolzano-Weierstrass theorem. Define subsequences, open and closed sets.		
1.3	Recall the limits of functions. List limit theorems. Describe the Limit concept. Define monotone functions. Describe continuous functions, and continuous functions on intervals.		
1.4	Outline the concept of derivative and list its properties. State the Mean-Value Theorem, and L'Hospital's Rule.		
2.0	**Skills**		
2.1	Recognize natural numbers, integers, rational numbers. Explain completeness property.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Summarize sequences and their limits, limit theorems, monotone sequences, sub-sequences, open and closed sets. Analyze the Cauchy criterion and the Bolzano-Weierstrass theorem.		
2.3	Summarize the concepts of limits of functions, limit theorems, and monotone functions.		
2.4	Recognize continuous functions, and continuous functions on intervals.		
2.5	Develop the concept of derivative. Explain the Mean-Value Theorem, and L'Hospital's Rule.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Adheres to Islamic values and excellence in professional practices.	Feedback,	Critical assessment, peer assessment,

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	self-assessment.
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	R. Bartle and R. Sherbert, Introduction to Real Analysis, 3rd ed., John Wiley and Sons, New York, 2000.
Essential References Materials	• K.A. Ross, "Elementary Analysis: the Theory of Calculus", Springer Verlag 1980. • W. Rudin, "Principles of Mathematical Analysis", McGraw Hill 1976. T.E. Marsden, "Elementary Classical Analysis", Freeman and Company 1974.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Real Analysis available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources	Not Applicable

Item	Resources
(Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	**19-3-1444**

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Real Analysis 2**
Course Code:	**323MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

D. Teaching and Assessment **4**

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E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours:	**5**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**9th level / 3rd year**
4. Pre-requisites for this course (if any)**:**	**322MATH**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	3	**60**
2	**Blended**	2	**40**
3	**E-learning**	--	--
4	**Distance learning**	--	--
5	**Other**	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	60
2	**Laboratory/Studio**	--
3	**Tutorial**	--
4	**Others** (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course will cover some basic analysis topics with a focus on sequences and series of functions, and presents the essential foundations of measure theory and theory of the integral in the real line..

2. Course Main Objective

Introduce Lebesgue's theory of integration in which integrals can be assigned to a large class of functions on the real line and extending the notion of integration.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	State the pointwise and uniform convergence of a sequence of functions.	K1
1.2	State the pointwise and uniform convergence of a series of functions.	K1

CLOs		Aligned PLOs
1.3	Describe the notion of algebra and sigma algebra.	K2
1.4	Define Lebesgue measure and Lebesgue outer measure.	K4
1.5	Recognize a Lebesgue integrable function.	K4
1.6	Outline the different theorems of convergence	K1, K2
2	**Skills :**	
2.1	Differentiate between pointwise and uniform convergence of a sequence and series of functions.	S1
2.2	Explain the difference between sigma and sigma algebra.	S2
2.3	Compare between the properties of the Lebesgue measure and Lebesgue outer measure.	S2,S3
2.4	Differentiate between the Lebesgue and Riemann integral.	S2,S3
2.5	Justify what theorem of convergence is appropriate to study the convergence of a sequence of integrals.	S2,S3
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V2
3.3	Work effectively, both independently and as part of a group.	V3
3.4	Adheres to Islamic values and excellence in professional practices.	V4
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V5
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V6

C. Course Content

No	List of Topics	Contact Hours
1	Definition of Riemann integrable and Properties	**5**
2	The principal theorem in calculus and Improper Integral.	**5**
3	Continuity of functions, uniform continuity, sequence of functions and series of functions.	5
4	Uniform convergence of sequence of functions, uniform convergence, normal convergence, and absolute convergence of series of functions.	**10**
5	Algebra and sigma algebra, Lebesgue outer measure and its properties, measurable sets, Borel sets, Lebesgue measure.	**15**
6	Measurable functions and their properties, Lebesgue integral, Monotone convergence theorem, Fatou's lemma, Dominated convergence theorem, Comparaison Rieman-Lebesgue integrals, Type of convergence.	**20**
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	State the pointwise and uniform convergence of a sequence of functions	Lectures, up-to-date textbooks, hand-outs, develop skills in using	Exams, tutorials, supervision,
1.2	State the pointwise and uniform		presentations, essays,

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	convergence of a series of functions	library and other learning resources, use of the Internet.	feedback on written work and homework.
1.3	Describe the notion of algebra and sigma algebra.		
1.4	Define Lebesgue measure and Lebesgue outer measure.		
1.5	Recognize a Lebesgue integrable function.		
1.6	Outline the different theorems of convergence		
2.0	**Skills**		
2.1	Differentiate between pointwise and uniform convergence of a sequence and series of functions.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Explain the difference between sigma and sigma algebra.		
2.3	Compare between the properties of the Lebesgue measure and Lebesgue outer measure.		
2.4	Differentiate between the Lebesgue and Riemann integral..		
2.5	Justify what theorem of convergence is appropriate to study the convergence of a sequence of integrals.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Midterm Exam	7	30
3	Final exam	12	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	حمد القويز وصالح السنوسي، **مبادئ التحليل الحقيقي (2ج)**، دار الخريجي، 2013).
Essential References Materials	• H. L. Royden, "**Real Analysis**", McMillan, 1988. • G. De Barra, "**Measure Theory and Integration**", Ellis Howwood, 1981. B. Craven, "**Lebesgue Measure and Integration**", Pitman, Boston, 1982.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Measure Theory available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	29-3-1444

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Functions of Complex Variable**
Course Code:	**423MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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E. Student Academic Counseling and Support **6**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours: 5
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered: 10th level / 4th year
4. Pre-requisites for this course (if any)**:** 322MATH-5 + 203MATH-5
5. Co-requisites for this course (if any)**:** None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	60
2	Blended	2	40
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	60
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

The course is devoted to study the algebraic and geometric structure of the complex number system, the continuous and differentiable complex functions, holomorphic and harmonic functions, Cauchy-Riemann equations. Students learn different integral forms, compute integrals of complex functions and apply the residue theorem.

2. Course Main Objective

Introduce the fundamental ideas of the functions of complex variables and developing a clear understanding of the fundamental concepts of Complex Analysis such as analytic functions, complex integrals.

3. Course Learning Outcomes

CLOs	Aligned PLOs

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recall operations on the complex numbers	K1
1.2	State Cauchy-Riemann theorem and harmonic conjugate	K2, S1
1.3	Define zero and poles	K3, K1
1.4	Outline the residue method	K4, K1
2	**Skills :**	
2.1	Explain how to solve algebraically some equations	S1
2.2	Justify whether a function is holomorphic, harmonic.	S3
2.3	Justify the use of Cauchy-Riemann equations and find harmonic conjugate	S4
2.4	Write the singular points	S2
2.5	Explain the use of residue theorem	S4
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	**Introduction to complex numbers:** • Complex plan • Polar and exponential forms, powers and roots of complex numbers	**5**
2	**Complex Functions:** • Limits, continuity and differentiation • Concept of analytic function, Cauchy-Riemann theorem • Harmonic functions	**10**
3	**Some Elementary functions:** • Exponential, trigonometric, hyperbolic, logarithmic and their inverses.	**10**
4	**Complex Integration:** • Line integral • Cauchy theorem • Cauchy integral formula and its application (maximum principal for analytic functions and for analytic functions)	**10**
5	**Series Representation for Complex Functions:** • Sequences • Complex series • Taylor series and Laurent series • Power series	**10**
6	**Residue and Poles** • Residues Theorems • The three types of isolated singular points	**10**

	• Zeros and poles of order m.	
7	**Applications of Residues:** • Evaluation of Improper integrals • Improper integrals involving sines and cosines.	5
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Recall operations on the complex numbers	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	State Cauchy-Riemann theorem and harmonic conjugate..		
1.3	Define zero and poles.		
1.4	Outline the residue method.		
2.0	**Skills**		
2.1	Explain how to solve algebraically some equations.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Justify whether a function is holomorphic, harmonic		
2.3	Justify the use of Cauchy-Riemann equations to find harmonic conjugate.		
2.4	Write singular points.		
2.5	Explain the use of residue theorem.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7 or 8	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	J.W. Brown and R.V. Churchill, **Complex variables and Applications**, 8th ed. McGraw-Hill, New York, 2009.
Essential References Materials	• E. B. Saff and A.D. Snider, **Fundamentals of Complex Analysis for Mathematics**, Science and Engineering, 3rd ed., Pearson, 2002. • L. V. Ahlfors, "Complex **Analysis**", McGraw-Hill, Company, New York, 1979. Serge Ivovski, **Principles of Complex Analysis**, Moscow lectures, Springer.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Complex Analysisavailable at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying	Independent member of staff or	Check marking of a sample of

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Standards of Student Achievement	a member of staff in another institution (Peer reviewers)	student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Rings and Fields**
Course Code:	**445MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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D. Teaching and Assessment **4**

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F. Learning Resources and Facilities **6**

1.Learning Resources 6

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G. Course Quality Evaluation **6**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours: 5
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered: 10th level / 4th year
4. Pre-requisites for this course (if any)**:** 345MATH-5
5. Co-requisites for this course (if any)**:** None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	60
2	Blended	2	40
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	60
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

In this course, we are learning show to construct and examine of certain types of rings such as commutative or non-commutative rings, rings with or without identity, homomorphism of rings, integral domain, Fields, and skew fields. As well as Euclidian rings and mainly rings of polynomials and ideal and prime and maximal ideals. Introduce, beside the theorems of the main topics, many examples. Learning how to be familiar with the abstract concepts.
Familiarizing the student with mathematical proofs and logical maturity and developing thinking.

2. Course Main Objective

Study some types of rings, fields and subrings and their properties, and the (prime, maximal) ideals and homomorphism of rings.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Define many examples of certain types of Rings, fields, subrings, and ideals.	K3
1.2	Study the characteristic of rings, zero divisors and integral domains and some elementary properties of rings and ideals.	K3
1.3	Learn the concept of rings homomorphism and its kernel and image, and quotient rings.	K3
1.4	Ability to study the abstract concept in polynomial rings and fields extensions.	K4
2	**Skills :**	
2.1	Prove that a given set is a (sub)ring or field.	S2
2.2	Differentiate between ideals and subrings.	S2
2.3	Build a strong experience in writing mathematical proofs.	S4
2.4	Develop the mathematical abstract senses of the students.	S3
2.5	Differentiate between examples and abstract concepts and learning how to understand examples and solve exercises.	S5
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as a part of group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3

C. Course Content

No	List of Topics	Contact Hours
1	• Definitions and examples of certain types of rings. • Elementary properties, characteristic of rings. • Integral domains.	**18**
2	• Subrings. • Ideals. • Quotient rings.	**12**
3	• Homomorphisms and fundamental theorem. • Extension of rings and integral domain • Some extension of fields	**12**
4	Principal Ideal and Euclidian domain	**12**
5	• Polynomial rings, division algorithm • Irreducible Polynomials.	**6**
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.1	Define many examples of certain types of Rings, fields, subrings, and ideals.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Study the characteristic of rings, zero divisors and integral domains and some elementary properties of rings and ideals		
1.3	Learn the concept of rings homomorphism and its kernel and image, and quotient rings.		
1.4	Ability to study the abstract concept in polynomial rings and fields extensions.		
2.0	**Skills**		
2.1	Prove that a given set is a (sub)ring or field.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Differentiate between ideals and subrings		
2.3	Build a strong experience in writing mathematical proofs.		
2.4	Develop the mathematical abstract senses of the students.		
2.5	Differentiate between examples and abstract concepts and learning how to understand examples and solve exercises.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Midterm exam	7	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	• I. N. Herstein. **Abstract Algebra**, Prentice-Hall, Inc. New Jersey 1996. J.R. Dublin, **Modern Algebra**. Hamilton Printing Company, 6th edition, 2005.
Essential References Materials	الحلقات و الحقول (نظري-عملي) الأستاذ الدكتور صفوان محمد عادل عويرة. الدمام مكتبة المتنبي.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Abstract Algebra available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Differential Equations Theory**
Course Code:	**464MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **7**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours: 5
2. Course type **a.** University ☐ College ☐ Department ■ Others ☐ **b.** Required ■ Elective ☐
3. Level/year at which this course is offered: 11th level/ 4th year
4. Pre-requisites for this course (if any)**:** **263MATH-5 + 343MATH-5**
5. Co-requisites for this course (if any)**:** **None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	60
2	Blended	2	40
3	E-learning	---	---
4	Distance learning	---	---
5	Other	---	---

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	60
2	Laboratory/Studio	---
3	Tutorial	---
4	Others (specify)	60
	Total	

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides an introduction to existence and uniqueness theorem, theory and solution of the linear systems of differential equations, eigenvalues and eigenvectors, undetermined coefficients method, variation of parameters method, transforms methods, solving differential equations using Laplace transforms, solving first order non-linear differential equations by factoring the left member, singular solutions, the c-discriminant equation, the p-discriminant equation, basic concept of PDE's, linear and non-linear equations, elliptic, hyperbolic and parabolic equations, boundary value problem, Green's function and non-homogeneous boundary conditions.

2. Course Main Objective

Introduce students to different methods of different classes of Differential Equations, and different techniques to solve some classes of differential equations, system of homogeneous/non-homogenous differential equations, and Partial Differential Equations.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	State and know the fundamental principles and theories which studied during the course.	K1
1.2	Calculating Eigen values and Eigen vectors of a matrix. Solving first order homogeneous linear system of differential equations.,	K2
2	**Skills :**	
2.1	Solving first order non homogeneous linear system of differential equations using the variation of parameters method, Solving differential equations using Laplace transform.	S1
2.2	Solving some particular types of first order nonlinear differential equations.	S3
3	**Values:**	
3.1	Work in group effectively	V1
3.2	Use oral and discussion skills	V2
3.3	Use of internet resources, e-learning, and communication using blackboard	V3

C. Course Content

No	List of Topics	Contact Hours
1	• Lipschitz condition, existence and uniqueness theorems.	**5**
2	**Homogeneous Linear Systems:** • Calculating eigenvalues and eigenvectors for a matrix of a system, distinct real eigenvalues, repeated eigenvalues, and complex eigenvalues.	**10**
3	**Nonhomogeneous Linear Systems:** • Undetermined coefficient. • Variation of parameters. .	**10**
4	**Transform Methods:** • Definition of the Laplace transform. • Transforms of some basic functions. • Transform of a piecewise continuous function. • First translation theorem. • Some inverse transforms. • Termwise division and linearity. • Partial fractions. • Completing the square. • Inverse of first translation theorem. • Transforms of derivatives. • Solving a first-order IVP. • Solving a second-order IVP.	**10**
5	**First order non-linear differential equations:** • Equations solvable for p. • Equations solvable for y. • Equations solvable for x. • The envelope gives a singular solution. • The c-discriminant. • The p-discriminant. • Clairaut's form.	**10**

	Partial differential equations: • Basic concept of PDE's. • Classification of PDE's, linear and non-linear equations, elliptic, hyperbolic and parabolic equations. • Separation of variables.	**10**
	Boundary value problem: • Two-point boundary value problem. • Green's function. • Non-homogeneous boundary conditions.	**5**
Total		60

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Recognize the difference between ODE's, PDE's and boundary values problems.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	State the methods for solving the linear system of DE's.		
1.3	Define the Lipschitz condition and non-homogeneous boundary conditions.		
1.4	Outline the transform methods.		
2.0	**Skills**		
2.1	Interpret the singular solution of non-linear D.E.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Calculate the solution of IVP using the transforms methods.		
2.3	Subdivide the partial differential equations (PDE's).		
2.4	Analyze the theory of existence and uniqueness.		
2.5	Evaluate eigenvalues and eigenvectors for a matrix of a DE's system.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7 or 8	30
4	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	F.U. Myint, "**Ordinary Differential equations**", North Holland, 1978.
Essential References Materials	• D. Greenspan, "**Introduction to Partial Differential equations**", McGraw-Hill, 1988 • F. John, "**Partial Differential Equations**", Springer Verlag, 1978. • D. G. Zill, **A First Course in Differential Equations with Modeling** • **Applications**, Brooks l Cole, Cengage Learning, 2009 Earl D. Rainville, Phillip E. Bedient, Richard E. Beddient, **ELEMENTARY DIFFERENTIAL EQUATIONS**, 1996.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on differential equations theory available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Introduction to Topology**
Course Code:	**481MATH-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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E. Student Academic Counseling and Support **3**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **7**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours: 4
2. Course type **a.** University ☐ College ☐ Department ☒ Others ☐ **b.** Required ☒ Elective ☐
3. Level/year at which this course is offered: 10th level / 4th year
4. Pre-requisites for this course (if any)**:** 322MATH-5
5. Co-requisites for this course (if any)**:** None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	75
2	Blended	1	25
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	48
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	48

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers the essentials of point set topology which is the mathematical study of shapes, or topological spaces. After completing the course the student should be able to work basic problems in topological space, Metric Spaces. Further we shall become familiar with connectedness, compactness, density, and basis.

2. Course Main Objective

Provide the student with the basic foundation in fundamental concepts of point-set topology.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Write the definition of topology, define open, closed, closure, limit point, interior, exterior, and boundary of a set, and describe the relations between these sets.	K1

CLOs		Aligned PLOs
1.2	Define basis for a topology, list conditions under which one can generate a topology from a certain c**ollec**tion of subsets, and describe how to generate a topology from any collection of subsets without any condition.	K2
1.3	State the definition of continuity of a function between topological spaces, and list the equivalence definitions of continuous functions.	K3
1.4	Recall the definition of homeomorphic spaces, and describe the homeomorphism between well-known spaces.	K4
1.5	Write the definition of an open cover and compact space, and recognize the different types of compactness and discus their relation in general topological spaces and metric spaces in particular.	K1, K4
1.6	Write the definition of connected spaces and its properties.	K1
2	**Skills :**	
2.1	Explain the topology on a non-empty set, open, closed, closure, limit point, interior, exterior, and boundary of a set, and explain the relations between these sets, and solve related problems.	S1
2.2	Explain how to generate a topology from a collection of subsets under certain conditions, and without any conditions, and solve related problems.	S1, S2
2.3	Write and prove the equivalent definitions of continuous functions, and homeomorphic spaces, and solve related problems.	S3
2.4	Reconstruct homeomorphism functions between topological space, and solve related problems.	S3
2.5	Write the definitions of compact and connected topological space and differentiate between compact and noncompact spaces, connected and non-connected topological spaces and solve related problems.	S1, S2
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4

C. Course Content

No	List of Topics	Contact Hours
1	Topological Euclidean space.	**6**
2	Topological spaces, Open and closed sets, Accumulation points, closer sets, interior points, exterior points, boundary points.	**11**
3	Continuous mappings, homeomorphism and their topological properties, method to create Topology in a set	7
4	**Generation methods of topology:** Basis and subbases, Subspaces of topology.	**9**
5	Metric spaces	**9**
6	Compactness and Connectedness	**6**
Total		48

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Write the definition of topology, define open, closed, closure, limit point, interior, exterior, and boundary of a set, and describe the relations between these sets	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Define basis for a topology, list conditions under which one can generate a topology from a certain collection of subsets and describe how to generate a topology from any collection of subsets without any condition.		
1.3	State the definition of continuity of a function between topological spaces and list the equivalence definitions of continuous functions.		
1.4	Recall the definition of homeomorphic spaces and describe the homeomorphism between well-known spaces.		
1.5	Write the definition of an open cover and compact space and recognize the different types of compactness and discus their relation in general topological spaces and metric spaces in particular.		
1.6	Write the definition of connected spaces and its properties.		
2.0	**Skills**		
2.1	Explain the topology on a non-empty set, open, closed, closure, limit point, interior, exterior, and boundary of a set, and explain the relations between these sets, and solve related problems.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Explain how to generate a topology from a collection of subsets under certain conditions, and without any conditions, and solve related problems.		
2.3	Write and prove the equivalent definitions of continuous functions, and homeomorphic spaces, and solve related problems.		
2.4	Reconstruct homeomorphism functions between topological space, and solve related problems.		
2.5	Write the definitions of compact and connected topological space and differentiate between compact and noncompact spaces, connected and non-connected topological spaces and solve related problems.		
2.6	Communicate effectively.	Group working,	

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.7	Use e-learning to fill gaps in the course knowledge.	Lateral thinking, Mind-mapping, problem solving.	
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7 or 8	30
4	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	R. A Canover, "A **First Course in Topology**", The Williams & Willines Company, 1968.
Essential References Materials	• R. Engelking, "**Outline of General Topology**", North Holland, Amsterdam, 1968. J. Kelley, "General **Topology**", Van Nostrand, Princeton, N.Y. 1955
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Topology available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation	Lecture room for 25 students

Item	Resources
(Classrooms, laboratories, demonstration rooms/labs, etc.)	
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Probability Theory 2**
Course Code:	**414STAT-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **7**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours:	**4**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**11th level /4th year**
4. Pre-requisites for this course (if any)**:**	**313STAT-5 + 323MATH-4**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	75
2	Blended	1	25
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	48
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	48

B. Course Objectives and Learning Outcomes

1. Course Description

The course constitutes a fundamental basis for the asymptotic theory in probability which has an important role in many other mathematical areas such as statistics, modern optimization methods and risk modelling. Central concepts in the course are: Borel algebra, sequences and series of real random variable, Various modes of convergence, Theorems limit in probability, conditioning, Markov property and martingale.

2. Course Main Objective

Deepens and expands the basic knowledge in probability theory

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Memorize the difference between different convergence modes	K1
1.2	State the Markov property and memorize different definitions of the martingale process	K1
1.3	Recognize the different versions of central limit theorems	K2
1.4	Outline the general properties of the catachrestic function	K3
2	**Skills :**	
2.1	Differentiate between weak and strong Law of Large numbers	S1
2.2	Recognize the multi-dimensional normal distribution and the invariance properties, such as linear combinations and conditioning	S2
2.3	Explain the concepts of characteristic and how this function can be used.	S3
2.4	Compare between different concepts of stochastic convergences and justify how they relate to each other.	S3
2.5	Explain the random properties of the conditional expectation and differentiate between independence and conditional independence	S3
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	Borel Algebra on R, measures of probability, countable probabilities.	**6**
2	**Convergence concepts:** Various modes of convergence, Almost sure convergence, Borell-Cantelli Lemma, Vague convergence, Continuation, Uniform integrability and convergence of moments	**6**
3	**Series of random variables and Law of Large numbers**: Probability inequalities, Weak Law of Large numbers, Convergence of series, Strong Law of Large numbers, Applications	**6**
4	**Characteristic function:** • General properties, convolution, uniqueness, and inversion • Representation Theorems • Multidimensional case Laplace transforms	**6**
5	**Central limit Theorems:** • Liapounov's Theorem. • Lindeberg-Feller Theorem • Infinite divisible	**9**
6	**Random Walk:**	**6**

	Zero-or-one, Recurrence, Fine structure, continuation	
7	**Conditioning, Markov property and martingale:** • Basic properties of the conditional expectation • Conditional independence, Markov property • Basic properties of sub-martingale	**9**
Total		48

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Memorize the difference between different convergence modes	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	State the Markov property and memorize different definitions of the martingale process		
1.3	Recognize the different versions of central limit theorems		
1.4	Outline the general properties of the catachrestic function		
2.0	**Skills**		
2.1	Differentiate between weak and strong Law of Large numbers	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Recognize the multi-dimensional normal distribution and the invariance properties, such as linear combinations and conditioning		
2.3	Explain the concepts of characteristic and how this function can be used.		
2.4	Compare between different concepts of stochastic convergences and justify how they relate to each other.		
2.5	Explain the random properties of the conditional expectation and differentiate between independence and conditional independence		
3.0	**Values**		
3.1	Communicate effectively.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Use e-learning to fill gaps in the course knowledge.		
3.3	Work effectively, both independently and as part of a group.		
3.4	Adheres to Islamic values and excellence in professional practices.		
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.		
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Midterm exam	7 or 8	30
4	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	K.L. Chung , **A Course in Probability Theory,** Academic Press, 2001.
Essential References Materials	• Billingsley, P., **Probability and measure**, Wiley series in probability and mathematical statistics, 1995. Walpole, R., Myers R., Myers, S. and Ye, K., **Probability & Statistics for Engineers & Scientists**, Pearson Education, 2007
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on probability theory available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Mathematical Programming**
Course Code:	**453MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

D. Teaching and Assessment **4**

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E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**5**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**11th level / 4th year**
4. Pre-requisites for this course (if any)**:**	**203MATH-5**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	75
2	Blended	1	25
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	60
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	60

B. Course Objectives and Learning Outcomes

1. Course Description

This course aims at introducing students into linear optimization theory and its applications. The field of linear programming provides the appropriate methods for the efficient computation of optimal solutions of a problem which is modeled by a linear objective function and a set of linear constraints. At the end of this course, the students will be ready to model a problem as a linear programming problem and to apply the appropriate method in order to find an optimal solution.

2. Course Main Objective

Introduce the student to mathematically formulate some real-life problems to linear programming (LP) problems and solve these using LP methods.

3. Course Learning Outcomes

CLOs	Aligned PLOs

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Memorize a profound knowledge of the concepts related to the theory of linear programming.	K1
1.2	Outline the difference between different linear programming methods.	K2
1.3	Recognize the steps to follows of each method of linear programming	K3
1.4	Recognizing the process of mathematical formulation of LP problems.	K4
2	**Skills :**	
2.1	Use vocabulary and concepts associated with linear programming.	S1
2.2	Be able to solve linear programming model graphically	S3
2.3	Translate word problems into inequalities for use in linear programming mode l.	S4
2.4	Able to prove each technique used in each method	S2
2.5	Translate simple linear programming into Excel and use solver to find optimum	S5
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	Definition of the linear programming problem and its mathematical formulation	**8**
2	Graphical method for LP	**4**
3	Simplex method	**10**
4	Modified Simplex method	**10**
5	Two-phase method	**6**
6	Degenerate solution	**6**
7	Duality	**8**
	Applications in transportation and networks	**8**
Total		**60**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Memorize a profound knowledge of the concepts related to the theory of linear programming.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning	Exams, tutorials, supervision, presentation
1.2	Outline the difference between different linear programming methods.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.3	Recognize the steps to follows of each method of linear programming	resources, use of the Internet.	s, essays, feedback on written work and homework.
1.4	Recognizing the process of mathematical formulation of LP problems.		
2.0	**Skills**		
2.1	Use vocabulary and concepts associated with linear programming.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Be able to solve linear programming model graphic ally		
2.3	Translate word problems into inequalities for use in linear programming model.		
2.4	Able to prove each technique used in each method		
2.5	Translate simple linear programming into Excel and use solver to find optimum		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Midterm exam	7	30
4	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	• **Paul R. Thie. An introduction to Linear Programming and Game Theory. 2nd Ed. J. Wiley& Sons (1988).** • **إبراهيم العليان. مقدمة في البرمجة الخطية . جامعة الملك سعود 2007**
Essential References Materials	• **Bazaraa, Jarvis and Sherali. Linear Programming and Network Flows. Grad level.** • **Bertsimas, Dimitris and Tsitsiklis, John, Introduction to Linear Optimization. Athena Scientific, 1997 (ISBN 1-886529-19-1). Graduate-level text on linear programming, network flows, and discrete optimization.** • **Chvatal, Linear Programming, Freeman, 1983. Undergrad or grad.**
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Linear programming available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Introduction to Graphs Theory and Combinatorics**
Course Code:	**432MATH-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 5

2. Facilities Required 5

G. Course Quality Evaluation **5**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**4**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**11th level / 4th year**
4. Pre-requisites for this course (if any)**:**	**344MATH-4**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**3**	**75**
2	**Blended**	**1**	**25**
3	**E-learning**	**--**	**--**
4	**Distance learning**	**--**	**--**
5	**Other**	**--**	**--**

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**48**
2	**Laboratory/Studio**	**--**
3	**Tutorial**	**--**
4	**Others** (specify)	**--**
	Total	**48**

B. Course Objectives and Learning Outcomes

1. Course Description

The course covers basic theory and applications of combinatorics and graph theory. Combinatorics is a study of different enumeration techniques of finite but large sets. Topics that will be studied include principle of inclusion and exclusion, generating functions and methods to solve difference equations. Graph theory is a study of graphs, trees and networks. Topics that will be discussed include Euler formula, Hamilton paths, planar graphs and coloring problem; the use of trees in sorting and prefix codes; useful algorithms on networks such as shortest path algorithm, minimal spanning tree algorithm.

2. Course Main Objective

Introduce graph theory and combinatorics to mathematics students and show some real-world applications.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand basic notions in graph and combinatory theory	K1
1.2	Define graph theoretic concepts and those of combinatory, state and prove their properties	K2
1.3	Write the procedure for solving recurrences relations	K3
1.4	Recognize many techniques namely coloring, how transform a graph into another similar for tracing it in the plan, chromatic numbers...	K4
2	**Skills:**	
2.1	Able to differentiate between counting rules	S1
2.2	Able to choose and use different methods of combinatory	S2
2.3	Apply the theorems that are treated in the course for problem solving and proofs	S3
2.4	Decide in what situations the theorems that are treated in the course can be applied	S4
2.5	Use different algorithms for coloring, shortest path, etc.	S5
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	Basic Counting Principles, Inclusion and Exclusion Principle, Pigeonhole Principle	4
2	The sample model of counting, Binomial theorem, Multinomial theorem	4
3	The distribution model of counting, Partitions, Stirling numbers of second kind	4
4	Generating functions	4
5	Recurrence relations	4
6	Graph and Digraph, Isomorphic graphs, Subgraph and induced subgraph, Special classes of graphs, connected graph, disconnected graph, component of graph, Walks and connection, Distance and eccentricity	10
7	Euler Graphs, Hamiltonian Graphs, and planar graphs	6
8	Trees, Rooted and Binary Trees, Spanning trees, Forest	4
9	Vertex coloring, Edge coloring, Region Coloring	4
10	Posets and their applications	4
Total		**48**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand the difference between direct and iterative methods.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Understand basic notions in graph and combinatory theory		
1.3	Write the procedure for solving recurrences relations		
1.4	Recognize many techniques namely coloring, how transform a graph into another similar for tracing it in the plan, chromatic numbers.		
2.0	**Skills**		
2.1	Able to differentiate between counting rules	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Able to choose and use different methods of combinatory		
2.3	Apply the theorems that are treated in the course for problem solving and proofs		
2.4	Decide in what situations the theorems that are treated in the course can be applied		
2.5	Use different algorithms for coloring, shortest path, etc.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Midterm exam	7 or 8	30
4	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	R. Somasundaram, Discrete Mathematical Structures. Prentices Hall of India, 2003.
Essential References Materials	• مقدمة في نظرية التركيبات، د. أحمد شراري و د. محمد الزهيري. جامعة الملك سعود، النشر العلمي والمطابع، 2011. • مقدمة في نظرية الرسومات، د. أحمد شراري و د. محمد الزهيري. جامعة الملك سعود، النشر العلمي والمطابع، 2011.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Combinatorics and Graph Theory available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Special Topics**
Course Code:	**490MATH-3**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 5

2. Facilities Required 5

G. Course Quality Evaluation **6**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**3**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**10th level / 4th year**
4. Pre-requisites for this course (if any)**:**	**322MATH-5**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**2**	**66**
2	**Blended**	**1**	**34**
3	**E-learning**	--	--
4	**Distance learning**	--	--
5	**Other**	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**36**
2	**Laboratory/Studio**	--
3	**Tutorial**	--
4	**Others** (specify)	--
	Total	**36**

B. Course Objectives and Learning Outcomes

1. Course Description

The goal is of this course is to study a selected advanced topic (or more than one topic) in Mathematics. The choice of topic(s) is suggested by the course instructor and approved by the Educational Affairs Committee at the Department.

2. Course Main Objective

Study a selected advanced topic (or more than one topic) in Mathematics..

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Define notions relevant to the chosen topic.	K1
1.2	List properties of the notions relevant to the chosen topic.	K2
1.3	Recall the facts and results relevant to the chosen topic.	K3

CLOs		Aligned PLOs
1.4	Outline relevant methods.	K4
2	**Skills :**	
2.1	Provide examples and counterexamples of properties relevant to the chosen topic.	S1
2.2	Demonstrate ability to think abstractly and independently.	S3
2.3	Choose and use different methods.	S4
2.4	Prove relevant theorems and results correctly and intelligibly.	S2
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	The contents of the course are distributed evenly over the semester upon approval by the Educational Affairs Committee at the Department..	**36**
Total		36

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Define notions relevant to the chosen topic.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	List properties of the notions relevant to the chosen topic.		
1.3	Recall the facts and results relevant to the chosen topic.		
1.4	Outline relevant methods.		
2.0	**Skills**		
2.1	Provide examples and counterexamples of properties relevant to the chosen topic.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Demonstrate ability to think abstractly and independently.		
2.3	Choose and use different methods.		
2.4	Prove relevant theorems and results correctly and intelligibly.		
2.5	Communicate effectively.	Group working, Lateral thinking,	
2.6	Use e-learning to fill gaps in the course		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	knowledge.	Mind-mapping, problem solving.	
2.7	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7 or 8	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Relevant textbook(s) will be selected by the assigned teacher and requires the approval of the Educational Affairs Committee at the Department.
Essential References Materials	Relevant essential references will be selected by the assigned teacher and requires the approval of the Educational Affairs Committee at the Department.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on ordinary differential equations available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Analysis in Several Variable**
Course Code:	**424MATH-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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C. Course Content **4**

D. Teaching and Assessment **5**

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E. Student Academic Counseling and Support **6**

F. Learning Resources and Facilities **6**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **7**

H. Specification Approval Data **7**

A. Course Identification

1. Credit hours:	**4**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**12th level / 4th year**
4. Pre-requisites for this course (if any):	**323MATH-4**
5. Co-requisites for this course (if any):	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	75
2	Blended	1	25
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	48
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	48

B. Course Objectives and Learning Outcomes

1. Course Description

This course aims to:

- Demonstrate an understanding of the proofs of some fundamental theorems already introduced in Calculus 3.
- Determine the basic topological properties of the Euclidean space.
- Determine the limits, continuity, and differentiability of functions in several variables.
- Know the relation between continuity and some topological properties: compactness, connectivity ...
- Distinguish between differentiability and partial differentiability and understand the relationship between them.
- Find the critical points of a real function in several variables and classify them.
- Apply the implicit and inverse functions theorems to solve some equations.

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2. Course Main Objective

Study the algebraic and geometric structure of the complex number system, the continuous and differentiable complex functions, holomorphic and harmonic functions, Cauchy-Riemann equations.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the algebraic and metric structure of the Euclidean space.	K1
1.2	State the Topological properties of the Euclidean space.	K2, S1
1.3	Define the concept of limit and differentiability of a function in severable variables.	K3
1.4	Apply the implicit and inverse theorems to solve certain equations.	K4, K3
2	**Skills:**	
2.1	Deal with multivariable calculus concepts from a theoretical and an analytic aspect.	S1
2.2	Distinguish between differentiability and partial differentiability and understand the relation between them.	S1
2.3	Determine the critical points of a real function in several variable.	S2-S1
2.4	Classify the critical points.	S3-S4
2.5	Apply the implicit and inverse theorems.	S5
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	**The Euclidean space:** • Algebraic structure • Properties of the Euclidean norm, open balls, open and closed sets, interior points, boundary points. • Sequences, compact and connected sets	**12**
2	**Limits and Continuity:** • Limit of functions in several variables • Continuity and open and closed sets • Sequences criterion • Extremum value theorem, intermediate value theorem, uniform continuity.	**12**
3	**Differentiability:** • Partial and directional derivatives • Gradient, Jacobian, chain rule, differentiable function	**12**

	• Differentiability and continuity, differentiability and directional derivatives, necessary condition of differentiability.	
4	**Applications of differentiability:** • Critical points • Necessary condition of optimality • Inverse function theorem • Implicit function theorem.	**12**
Total		**48**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Understand the algebraic and metric structure of the Euclidean space.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	State the Topological properties of the Euclidean space.		
1.3	Define the concept of limit and differentiability of a function in severable variables.		
1.4	Apply the implicit and inverse theorems to solve certain equations.		
2.0	**Skills**		
2.1	Deal with multivariable calculus concepts from a theoretical and an analytic aspect.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Distinguish between differentiability and partial differentiability and understand the relation between them.		
2.3	Determine the critical points of a real function in several variable.		
2.4	Classify the critical points.		
2.5	Apply the implicit and inverse theorems.		
3.0	**Values**		
3.1	Communicate effectively.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Use e-learning to fill gaps in the course knowledge.		
3.3	Work effectively, both independently and as part of a group.		
3.4	Adheres to Islamic values and excellence in professional practices.		
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.		
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7 or 8	30
4	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	ح سنوسي و كمال الدين الهادي: مبادئ التحليل، الجزء الثالث، مطابع هلا، الرياض ١٤٢٨.
Essential References Materials	. Shirali and H.L. Vasudeva, Multivariable Analysis, Springer 2011.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on analysis in several variables available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Differential Geometry**
Course Code:	**472MATH-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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F. Learning Resources and Facilities **5**

1.Learning Resources 6

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**4**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**12th level / 4th year**
4. Pre-requisites for this course (if any)**:**	**203MATH-5 + 304MATH-5**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	3	70
2	Blended	1	30
3	E-learning	--	--
4	Distance learning	--	--
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	48
2	Laboratory/Studio	--
3	Tutorial	--
4	Others (specify)	--
	Total	48

B. Course Objectives and Learning Outcomes

1. Course Description

The goal of the course is to provide an elementary and geometric introduction to differential Geometry. We develop the basic local theory of space curve and surfaces; we explain how to compute curvature, torsion, and initiate the students to geodesics.

2. Course Main Objective

This course gives students basic knowledge of classical differential geometry of curves and surfa ces. Among other students will learn and understand the particular interest of the basic principles of differential geometry of curves and surfaces and its principal theorems.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Define parameterization of curves and arc length parameterization	K1

CLOs		Aligned PLOs
1.2	Describe the curvature and torsion of curves	K2
1.3	List the Fernet -Serre apparatus and osculating planes	K3
1.4	Define the parametrization of surfaces, fundamental forms, principal curvatures	K4
1.5	State the Gaussian curvature, mean curvature, and geodesics of a surface	K4
2	**Skills :**	
2.1	Calculate the curvature and torsion of a curve.	S1
2.2	Write the first and second fundamental form.	S3
2.3	Evaluate the principal, the mean, and the Gaussian curvature.	S4
2.4	Write a geodesic coordinate patch.	S2
2.5	Justify the use of the Gauss-Bonnet formula.	S4
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V1
3.3	Work effectively, both independently and as part of a group.	V2
3.4	Adheres to Islamic values and excellence in professional practices.	V3
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	V4
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	V5

C. Course Content

No	List of Topics	Contact Hours
1	Curves in Euclidean space - and the existence and uniqueness	**4**
2	parametric representation of curves, regular Curve, the representation of the curve in terms of the arc length.	**6**
3	Frenet-Serret's theorem, the Helix curve	**4**
4	Three moving frame: tangent and the principal normal and the binormal, Osculating plane, normal plane, rectifying plane, Torsion and curvature	**6**
5	Fundamental theorem of curve theory, associated curves of a space curve (Gauss field, Evolute).	**4**
6	Regular surfaces, parameterization of a surfaces, directions on the surface, parametric curves and parametric lines, singular point on a surface.	**12**
7	The first fundamental formula Basic curvature, Types of curvature Curves convergent, Geodesian lines, The second fundamental formula.	**12**
Total		**48**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Define parameterization of curves and arc length parameterization	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	Describe the curvature and torsion of curves		
1.3	List the Frenet -Serre apparatus and		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	osculating planes	of the Internet.	
1.4	Define the parametrization of surfaces, fundamental forms, principal curvatures		
1.5	State the Gaussian curvature, mean curvature, and geodesics of a surface		
2.0	**Skills**		
2.1	Calculate the curvature and torsion of a curve.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Write the first and second fundamental form.		
2.3	Evaluate the principal, the mean, and the Gaussian curvature.		
2.4	Write a geodesic coordinate patch.		
2.5	Justify the use of the Gauss-Bonnet formula.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	partial exam	7	30
4	Final exam	16	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Andre Pressley, Elementary Differential Geometry, second edition DOI 10, 1007/978-1-84882-891-9, Springer London Dordrecht Heidelberg New York (2007).
Essential References Materials	• Chuan-Chih Hsiung, "A first Course in Differential Geometry", A Wiley-Interscience, publication, 1988. • J. A. Thorpe, "Elementary Topics in Differential Geometry", Springer-Verlag, 1979.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on differential geometry available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Linear Algebra 2**
Course Code:	**343MATH-5**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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D. Teaching and Assessment **4**

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E. Student Academic Counseling and Support **5**

F. Learning Resources and Facilities **5**

1.Learning Resources 5

2. Facilities Required 6

G. Course Quality Evaluation **6**

H. Specification Approval Data **6**

A. Course Identification

1. Credit hours:	**5**
2. Course type	
a.	University ☐ College ☐ Department ☒ Others ☐
b.	Required ☒ Elective ☐
3. Level/year at which this course is offered:	**7th level / 3rd year**
4. Pre-requisites for this course (if any)**:**	**242MATH-5**
5. Co-requisites for this course (if any)**:**	**None**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**3**	**60**
2	**Blended**	**2**	**40**
3	**E-learning**	**--**	**--**
4	**Distance learning**	**--**	**--**
5	**Other**	**--**	**--**

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**60**
2	**Laboratory/Studio**	**--**
3	**Tutorial**	**--**
4	**Others** (specify)	**--**
	Total	**60**

B. Course Objectives and Learning Outcomes

1. Course Description

This course studies the fundamental concepts and properties of vector spaces and sub-vector spaces over the field of real number. Also, we study the basis obviously linearly independent and a generated set in a vector space. linear transformation, reduction of matrices, Inner product.

2. Course Main Objective

Study the concepts of vector spaces and their basis, the linear transformations, and their properties.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Describe the concept of vector space and sub-vector space.	K1
1.2	State different methods to find basis of vector spaces.	K1, K2
1.3	Define the linear transformation, find the range and null space	K1, K2

CLOs		Aligned PLOs
1.4	Outline inner product and reduction of matrices.	K1, K3
2	**Skills :**	
2.1	Understand the basic concepts of Real vector spaces	S1
2.2	Differentiate between subset and subspaces, independent system and dependent system, generating system and basis	S1, S2
2.3	Differentiate between a map and linear transformation.	S3
2.4	Analyze a matrix associate to a linear transformation	S2
2.5	Realize the reduction matrix and the concepts of inner product.	S3
3	**Values:**	
3.1	Communicate effectively.	V1
3.2	Use e-learning to fill gaps in the course knowledge.	V2
3.3	Work effectively, both independently and as part of a group.	V3
3.4	Adheres to Islamic values and excellence in professional practices.	
3.5	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.	
3.6	Take full responsibility for initiating, identifying, amending, and achieving aims.	

C. Course Content

No	List of Topics	Contact Hours
1	Vector spaces and sub vector spaces	**10**
2	.Linear independence and linear combinations	**10**
3	Basis and dimension and coordinates – Theorems related.	**10**
4	Linear transformations – representation by matrices.	**10**
5	**Reduction of matrices :** • Caracteristique polynomial. • Eigenvalues and eigenvectors of linear operators transformation	**10**
6	Inner product spaces	**10**
Total		**60**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Describe the concept of vector space and sub-vector space.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	State different methods to find basis of vector spaces.		
1.3	Define the linear transformation, find the range, and null space		
1.4	Outline inner product and reduction of matrices.		
2.0	**Skills**		
2.1	Understand the basic concepts of Real vector spaces	Tutorials, Group working,	Exams, tutorials, supervision,

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.2	Differentiate between subset and subspaces, independent system and dependent system, generating system and basis	problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.3	Differentiate between a map and linear transformation.		
2.4	Analyze a matrix associate to a linear transformation		
2.5	Realize the reduction matrix and the concepts of inner product.		
2.6	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.7	Use e-learning to fill gaps in the course knowledge.		
2.8	Work effectively, both independently and as part of a group.		
3.0	**Values**		
3.1	Adheres to Islamic values and excellence in professional practices.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.		
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Practical applications (solutions exercises), quizzes, and homework	Weekly	30
2	Mid exam	7	30
3	Final exam	13	40

***Assessment task** (i.e., written test, oral test, oral presentation, group project, essay, etc.)

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- 10 weekly office hours held by the course instructor.
- Academic advising arranged by the department.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	• Mohammed Ramadan Jouhayma "**Linear Algebra**", Dar Elkittab Almautahida (2013). رمضان محمد جهيمة، " **الجبر الخطي**"، دار الكتاب الجديد المتحدة (2013).
Essential References Materials	• Anton, H., & Rorres, C. (2013). Elementary linear algebra: applications version. John Wiley & Sons.

Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on Linear Algebra available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture room for 25 students
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
Assessment Methods (Direct, Indirect)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	**22-3-1444**

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Research Project**
Course Code:	**491MATH-4**
Program:	**Bachelor of Science in Mathematics**
Department:	**Mathematics**
College:	**Science**
Institution:	**King Khalid University**

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H. Specification Approval Data **6**

A. Course Identification

1. Credit hours: 4
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: 12th level / 4th year
4. Pre-requisites for this course (if any)**:** 322MATH-5 + 345MATH-5 + 363MATH-4 + 313STAT-5
5. Co-requisites for this course (if any)**:** None

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	Traditional classroom	--	--
2	Blended	2	50
3	E-learning	1	25
4	Correspondence	1	25
5	Other	--	--

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	Lecture	12
2	Laboratory/Studio	--
3	Tutorial	36
4	Others (specify)	--
	Total	48

B. Course Objectives and Learning Outcomes

1. Course Description

This course has the aim to make student be able to:

- How to collect information through self-study.
- Develop his scientific thinking.
- Learn about research, research methodology, tools, and methods for a particular research topic.
- Write scientific reports, present, and discuss his results.
- Use mathematical software.
- Able to prepare postgraduate studies.

2. Course Main Objective

Encourage students to extend their knowledge in a special topic (or more than one topic) in Mathematics using tools and methods of scientific research.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Define notions relevant to the chosen topic.	K1
1.2	List properties of the notions relevant to the chosen topic.	K2
1.3	Recall the facts and results relevant to the chosen topic.	K3
1.4	Outline relevant methods.	K4
2	**Skills :**	

CLOs		Aligned PLOs
2.1	Deal with the sources of information and the use of references and scientific journals on the subject of the search.	S2
2.2	Develop appropriate research strategy.	S3
2.3	Investigate and analyze the results.	S4
2.4	Write research and scientific reports in an orderly and systematic manner.	S3
2.5	Able to self-reliance and work individually	S5
2.6	Communicate effectively.	S6
2.7	Use e-learning to fill gaps in the course knowledge.	S7
2.8	Work effectively, both independently and as part of a group.	S8
3	**Values:**	
3.1	Adheres to Islamic values and excellence in professional practices.	V1
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the workplace.	V2
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims and desired outcomes, using new skills/ techniques as required.	V3

C. Course Content

No	List of Topics	Contact Hours
1	The contents of the course are distributed evenly over the semester upon approval by the Educational Affairs Committee at the Department.	**40**
Total		**40**

D. Teaching and Assessment

1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.0	**Knowledge and Understanding**		
1.1	Define notions relevant to the chosen topic.	Lectures, up-to-date textbooks, hand-outs, develop skills in using library and other learning resources, use of the Internet.	Exams, tutorials, supervision, presentations, essays, feedback on written work and homework.
1.2	List properties of the notions relevant to the chosen topic.		
1.3	Recall the facts and results relevant to the chosen topic.		
1.4	Outline relevant methods.		
2.0	**Skills**		
2.1	Provide examples and counterexamples of properties relevant to the chosen topic.	Tutorials, Group working, problem-solving, discussion, feedback on written work, exam papers, critical assessment, peer assessment, self-assessment.	Exams, tutorials, supervision, presentations, feedback on written work and homework, exam papers, critical assessment, peer assessment, self-assessment.
2.2	Demonstrate ability to think abstractly and independently.		
2.3	Choose and use different methods.		
2.4	Prove relevant theorems and results correctly and intelligibly.		
2.5	Communicate effectively.	Group working, Lateral thinking, Mind-mapping, problem solving.	
2.6	Use e-learning to fill gaps in the course knowledge.		
2.7	Work effectively, both independently and as part of a group.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Adheres to Islamic values and excellence in professional practices.	Feedback, experiential learning, learning logs, structured experiences in groups, self-assessment, profiling.	Critical assessment, peer assessment, self-assessment.
3.2	Able to articulate awareness of and demonstrate personal characteristics that positively impact the learning process.		
3.3	Take full responsibility for initiating, identifying, amending, and achieving aims.		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Evaluation by supervisor	Weekly	40
2	Evaluation by first examiner	13	30
3	Evaluation by second examiner	13	30

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:

- Meeting with the supervisor 3 hours per week
- Office hours

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Relevant textbook(s) will be selected by the assigned teacher and requires the approval of the Educational Affairs Committee at the Department.
Essential References Materials	Relevant essential references will be selected by the assigned teacher and requires the approval of the Educational Affairs Committee at the Department.
Electronic Materials	• Websites on the internet that are relevant to the topics of the course. • E-learning lms.kku.edu.sa
Other Learning Materials	Any book on the chosen topic available at the Central Library.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Not Applicable
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show device, Video Conference system and Smart boards • Computers loaded with modern software and connected to Internet service
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Not Applicable

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Strategies for Obtaining Student Feedback on Effectiveness of Teaching	Students guided by program instructors	Student questionnaires
Other Strategies for Evaluation of Teaching	Program/Department Instructor	Questionnaires
Processes for Verifying Standards of Student Achievement	Independent member of staff or a member of staff in another institution (Peer reviewers)	Check marking of a sample of student work
Quality of learning outcomes	Quality and Development Committee	Report

Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)
Evaluators (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify)
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H. Specification Approval Data

Council / Committee	
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