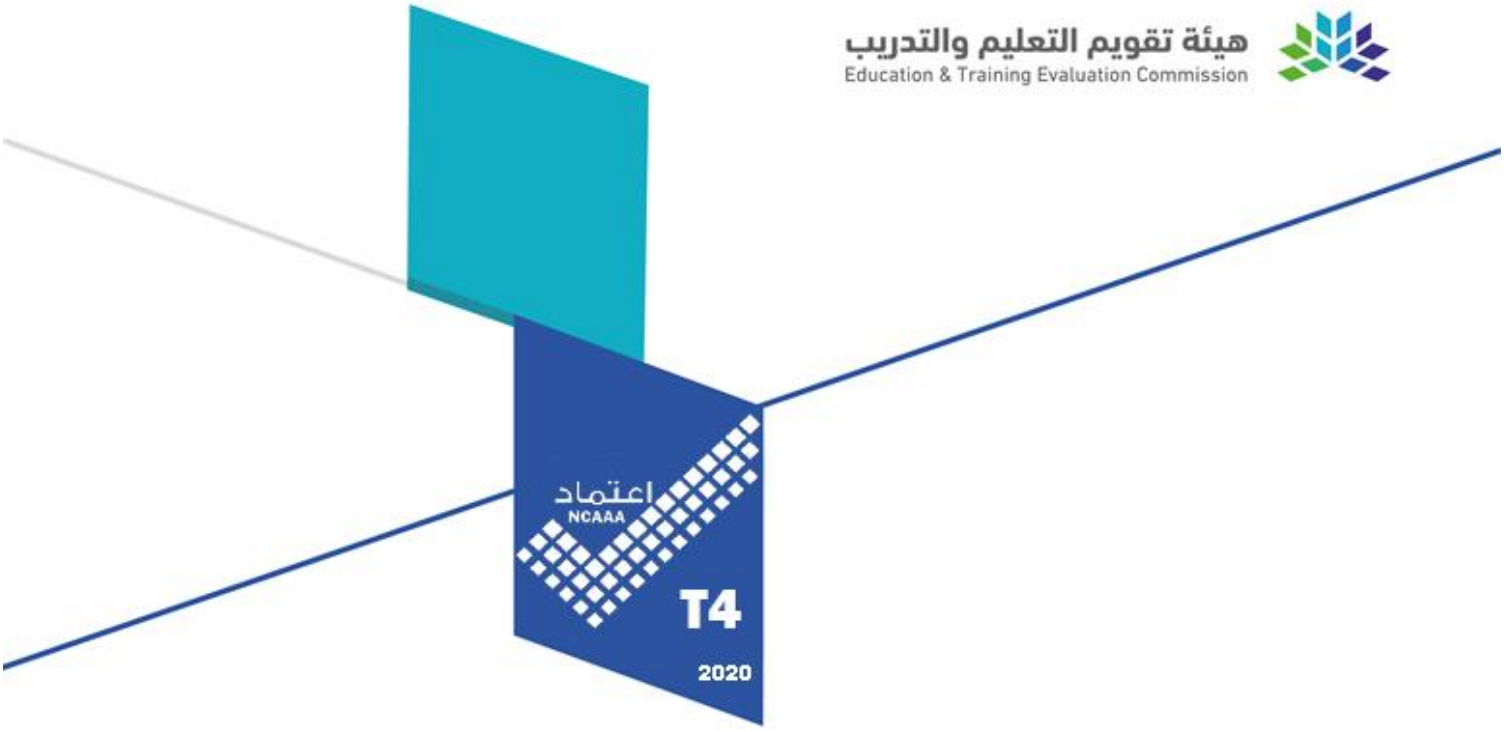
هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	English Language 1
Course Code:	ELCE1201
Program:	Bachelor in EMI Colleges (Medical Colleges/ College of Engineering/ College of Computer Sciences/ College of Business Administration/ Applied Sciences)
Department:	English Language Centre
College:	English Language Centre
Institution:	Umm Al Qura University

Table of Contents

A. Course Identification

1. Credit hours: 4 hours
2. Course type **a.** University ☐ College ■ Department ☐ Others ☐ **b.** Required ■ Elective ☐
3. Level/year at which this course is offered: **1st Year**
4. Pre-requisites for this course (if any)**:** **N/A**
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**	12 hours per week	75%
2	**Blended**	16 hours per week	100%
3	**E-learning**	4 hours per week	25%
4	**Distance learning**	0	0
5	**Other**	0	0

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	(16 hours) X (10 weeks)
2	**Laboratory/Studio**	0
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	160 hours

B. Course Objectives and Learning Outcomes

1. Course Description

English Language I is a single-level, English for General Purposes (EGP) course. All students who are admitted to Bachelor in the EMI Colleges (Medical Colleges/ College of Engineering/ College of Computer Sciences/ College of Business Administration/ Applied Sciences) are required to take this course in the first semester of the first year of their program. The course is offered in 10 weeks with a 16-hour-per week teaching plan covering the four language skills. It intends to develop students' knowledge and ability of English language in all major skills which include reading, writing, listening, and speaking, as well as in sub-skills including grammar, vocabulary, and pronunciation.

2. Course Main Objective

English Language 1 is a basic level taking students from (CEFR) A1 to A2.

3. Course Learning Outcomes

CLOs	
1.0	**Knowledge**
1.1	**By the end of the course, the students are expected to be able to:** exhibit adequate comprehension of spoken materials at the A2 level through recognizing key words and simple changes in topic. - understand the main ideas of conversations, presentations, radio programmes, news reports, podcasts, and interviews - understand how to listen for detail in academic study - understand the use of repetition for clarification - understand a speaker's mood from intonation - understand a speaker's attitude to a topic - distinguish fact from opinion - recognize features of connected speech, e.g. single sounds, intrusives, stress patterns
1.2	demonstrate basic understanding of grammar at the A2 level. - use the present simple to describe habits and routines - be aware of the use of formal vs informal language when making requests, writing email, etc. - use the past simple and past continuous when describing events in someone's life with correct time clauses where needed - use the present continuous to describe actions happening at the time of speaking or when discussing future plans -use *going to* when talking about persona plans or intentions - correctly use quantifiers, such as *too much* - be aware of the difference in use of *to* and *for* when giving reasons - use comparatives and superlatives for comparing people and objects - make predictions using *will, may* or *might* where appropriate - use present perfect to talk about experience or ack of it - use relative clauses with *who, which* or *that*
1.3	recognize and use lexical items such as words, collocations related to everyday topics at the A2 level: - develop vocabulary of the topics covered in order to be able to talk about them with others - be able to combine clauses using *and* and *but* - understand and use basic collocations with *have, make* and *do* - write short texts, eg making comments on podcast chat or online discussions, or giving online travel advice
2.0	**Skills**
2.1 2.1.1	**Cognitive Skills:** demonstrate comprehension of simple written texts at the A2 level through applying the skills of scanning, skimming, and guessing from context. - develop scanning (to find information quickly) and skimming skills (to predict the meaning of the text from visuals, titles or common words) - identify the author or speaker's audience and purpose - listen or read for opinions, attitude, and identify fact from opinion - understand meaning from context in both written and spoken texts
2.1.2	compose simple and basic texts at the A2 level about everyday topics through applying the skills of brainstorming ideas, composing an outline, and editing/revision. - write a formal email of introduction - post comments online with reasons and/or examples - posting text msgs vs writing an email - brainstorm and write points on presentation slides with correct format (parallelism) - write an announcement and comment on it - research a famous person, make notes, and produce a short paragraph from them - write a vlog script - write combined sentences, using *and* and *but* - use sequencers: *first, then, next, etc* - punctuation: Capital letters, commas, periods.

CLOs	
2.1.3	communicate in spoken language at the A2 level through simple tasks such as direct exchange of information, delivering short talks - talk about familiar topics - use functional language, such as greetings, inviting, expressing surprise, etc - give short presentations - produce a short vlog and video - check understanding
2.2	**Critical Thinking** - consider how people feel and think when meeting someone for the first time - analyze a text regarding main ideas in paragraphs - identify and discuss the habits of successful people - identify the pros and cons of a topic - identify a person's attitude or feelings based on what they have said - identify solutions to a problem - identify the purpose of a text based on its content - form an opinion based on input, eg an article - separate fact from fiction - identify reasons people take some action and problems they may have - evaluate a classmate's writing based on criteria provided - identify the difference between fact and fiction in advertisements - identify different points of view - identify use of register/ formality - reflect on how knowledge helps comprehension - reflect on knowledge gained - make predictions based on present knowledge
2.3	**Communication, Information Technology, Numerical** - provide basic, prepared information - describe and give personal opinions on a variety of topics - give advice, eg on travel - express general beliefs - talk about advantages and disadvantages - give recommendations - present persuasively
2.4	**Psychomotor** - give confident, persuasive presentations - design slides for a presentation with appropriate parallelism - use linking and weak forms in sentences
3.0	**Values**
3.1	develop life-long learning strategies so that students can take full responsibility of their English language skill development.
3.2	develop academic integrity.
3.3	collaborate in knowledge building and co-operate with peers: - hold short discussions with a partner to activate knowledge before listening tasks - hold short discussions with a partner to synthesize knowledge post-listening - work with others to develop a plan, create a convincing argument - give feedback to peers on writing, presentations, etc - use intonation to show emotion and interest - show levels of agreement *"I agree", "I guess"* - ask for opinions and check information
3.4	take the responsibilities to meet the requirements of the jobs market: - consider research needed before a job application - write a formal letter of self-introduction - be aware of the importance of first impressions - consider and give advice on how to save - consider the future of work

C. Course Content

No	List of Topics	Contact Hours
Evolve 2 Special Edition: Level 1 (A2)		
1	Unit 1: Connections Family, possessions, greetings, email, first impressions, things in common Video: Friends for dinner	
2	Unit 2: Work and Study Routines, work or study space, explaining a problem, podcasts, smartphones, the Internet, useful apps Video: Monday morning problems	
3	Unit 3: Let's move Sport and exercise, asking for info, bike sharing, attitudes to keeping fit, a fitness program Video: At the gym	
4	Unit 4: Good times Comic Con, gifts, invitations, Bug Fest, National Day and national dishes Video: A surprise party	
5	Unit 5: Firsts and lasts A day in your life, events in your life, congratulating and sympathizing, first impressions, migration, the Titanic Video: A photo album	
6	Unit 6: Buy now, pay later Back Friday, shopping habits, discovering new words, money, online shopping advice, inventions Video: An online shopping problem	
7	Unit 7: But first, food Comfort food, street food, ordering, meat-free burgers, vegan food, celebrating Video: Eating out	
8	Unit 8: Trips Trip advice, A short trip, making suggestions, living abroad, a trip to Riyadh, planning a trip Video: Lost in the city	
9	Unit 9: Looking good What to wear, family photos, giving opinions, images in ads, recycling, advertisements Video: An untidy guest	
10	Unit 10: Risky business Dangers at work, health, fears, the future: yourself and work, TV shows Video: A 911 call	
11	Unit 11: Me, online Personal achievements, social media, requesting, selfies, Internet of Things (IoT), online videos Video: Getting a job	
12	Unit 12: Outdoors The weather, describing places, getting lost, guerilla gardening, writing a trip review, a tourism campaign Video: Changes	
Total		

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**		
1.1	**By the end of the course, the students are expected to be able to:** exhibit adequate comprehension of spoken materials at the A2 level. - understand the main ideas of conversations, presentations, radio programmes, news reports, podcasts, and interviews - understand how to listen for detail in academic study - understand the use of repetition for clarification - understand a speaker's mood from intonation - understand a speaker's attitude to a topic distinguish fact from opinion - recognize features of connected speech, e.g. single sounds, intrusives, stress patterns	Listening exercises	Listening mid-term exam Listening final exam
1.2	demonstrate basic understanding of grammar at the A2 level. - use the present simple to describe habits and routines - be aware of the use of formal vs informal language when making requests, writing email, etc - use the past simple and past continuous when describing events in someone's life with correct time clauses where needed - use the present continuous to describe actions happening at the time of speaking or when discussing future plans -use *going to* when talking about persona plans or intentions - correctly use quantifiers, such as *too much* - be aware of the difference in use of *to* and *for* when giving reasons - use comparatives and superlatives for comparing people and objects - make predictions using *will, may* or *might* where appropriate - use present perfect to talk about experience or ack of it - use relative clauses with *who, which* or *that*	Grammar exercises	Midterm Exam Continuous writing assessment Continuous speaking assessment Quizzes Writing Final Exam Final Exam
1.3	recognize and use lexical items such as words, collocations related to everyday topics at the A2 level: - develop vocabulary of the topics covered in order to be able to talk about them with others - be able to combine clauses using *and* and *but* - understand and use basic collocations with *have, make* and *do* - write short texts, e.g. making comments on podcast chat or online discussions, or giving online travel advice	Writing, reading, and vocabulary exercises	Midterm Exam Continuous writing assessment Continuous speaking assessment Quizzes Writing Final Exam Final Exam

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.0	**Skills**		
2.1 2.1.1	**Cognitive Skills:** demonstrate comprehension of simple written texts at the A2 level through applying the skills of scanning, skimming, and guessing from context. - develop scanning (to find information quickly) and skimming skills (to predict the meaning of the text from visuals, titles or common words) - identify the author or speaker's audience and purpose - listen or read for opinions, attitude, and identify fact from opinion - understand meaning from context in both written and spoken texts	Reading comprehension exercises	Classroom discussion Midterm exam Final exam
2.1.2	compose simple and basic texts at the A2 level about everyday topics through applying the skills of brainstorming ideas, composing an outline, and editing/revision. - write a formal email of introduction - post comments online with reasons and/ or examples - posting text msgs vs writing an email - brainstorm and write points on presentation slides with correct format (parallelism) - write an announcement and comment on it - research a famous person, make notes, and produce a short paragraph from them - write a vlog script - write combined sentences, using *and* and *but* - use sequencers: *first, then, next, etc* - punctuation: Capital letters, commas, periods.	Writing exercises	Continuous writing assessment Writing Final Exam
2.1.3	communicate in spoken language at the A2 level through simple tasks such as direct exchange of information, delivering short talks - talk about familiar topics - use functional language, such as greetings, inviting, expressing surprise, etc - give short presentations - produce a short vlog and video - check understanding	Speaking exercises Discussion Presentation, eg an advertisement, a tourist campaign, a YouTube video	Continuous speaking assessment

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.2	**Critical Thinking** - consider how people feel and think when meeting someone for the first time - analyze a text regarding main ideas in paragraphs - identify and discuss the habits of successful people - identify the pros and cons of a topic - identify a person's attitude or feelings based on what they have said - identify solutions to a problem - identify the purpose of a text based on its content - form an opinion based on input, eg an article separate fact from fiction - identify reasons people take some action and problems they may have - evaluate a classmate's writing based on criteria provided - identify the difference between fact and fiction in advertisements - identify different points of view - identify use of register/ formality - reflect on how knowledge helps comprehension - reflect on knowledge gained - make predictions based on present knowledge		
2.3	**Communication, Information Technology, Numerical** - provide basic, prepared information - describe and give personal opinions on a variety of topics - give advice, eg on travel - express general beliefs - talk about advantages and disadvantages - give recommendations present persuasively	Demonstrations Active self-learning Pair work Group work e-learning Online material (Encourage students to make their presentations to small groups in the class)	Monitoring students' progress Evaluating the individual contribution Evaluating the teamwork Evaluating the final product (Evaluation of presentations may be by peers)
2.4	**Psychomotor** - give confident, persuasive presentations - design slides for a presentation with appropriate parallelism - use linking and weak forms in sentences	Active self-learning Pair work Group work	Monitoring students' progress

3.0	Values		
3.1	develop life-long learning strategies so that students can take full responsibility of their English language skill development.	Cambridge application Cambridge LMS	Built-in immediate feedback
3.2	develop academic integrity.	Writing exercises	Continuous writing assessment Continuous speaking assessment Writing Final Exam
3.3	collaborate in knowledge building and co-operate with peers: - hold short discussions with a partner to activate knowledge before listening tasks - hold short discussions with a partner to synthesize knowledge post-listening - work with others to develop a plan, create a convincing argument - give feedback to peers on writing, presentations, etc - use intonation to show emotion and interest - show levels of agreement *"I agree", "I guess"* - ask for opinions and check information	Peer work Group work	Evaluating the individual contribution Evaluating the teamwork Evaluating the final product
3.4	take the responsibilities to meet the requirements of the jobs market: - consider research needed before a job application - write a formal letter of self-introduction - be aware of the importance of first impressions - consider and give advice on how to save - consider the future of work	Individual, peer and group work inside classrooms. Extramural language work to master the competencies at this language level.	Monitoring students' progress

2. Assessment Tasks for Students

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

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	The 5th	30
2	Listening Mid-term Exam	The 6th	5
3	Continuous writing assessment	from the 1st to the 10th	5
4	Continuous speaking assessment	from the 1st to the 10th	5
5	3 Quizzes (average)	3rd/ 6th/ 9th	5
6	Online Practice	from the 1st to the 10th	5
6	Listening Final Exam	The 10th	5
7	Writing Final Exam	The 11th	5
8	Final Exam	The 11th	35
	Total		100

E. Student Academic Counseling and Support

Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice: Course instructors are ready to answer all students' queries during their lectures or during office hours and they can be reached by personal meeting, e-mails, WhatsApp or telegram. All students have the e-mail and office hours of the course instructor through student handouts distributed to the student at the beginning of each semester.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Clandfield, L., Goldstein, B., Jones, C., Kerr, P., Hendra, L., Tilbury, A. (2019). Evolve 2 Special Edition: Student's Book with Practice Extra. Cambridge University Press. UK: Cambridge University Press.
Essential References Materials	Multimedia
Electronic Materials	Cambridge LMS
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms
Technology Resources (AV, data show, Smart Board, software, etc.)	data show, Smart Board, and Cambridge application
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Blackboard

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources.	Faculty members	Direct: Course reports
Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources.	University students	Direct: Evaluation surveys

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	Curriculum and Accreditation Committees
Reference No.	
Date	Dec 28.2021

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA
T4 2020

توصيف المقرر الدراسي

اسم المقرر:	التقنية الرقمية
رمز المقرر:	DS 1101
البرنامج:	متطلب جامعة
القسم العلمي:	علم المعلومات
الكلية:	الحاسب الآلي ونظم المعلومات
المؤسسة:	جامعة أم القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: 2
2. نوع المقرر أ. متطلب جامعة [P] متطلب كلية [ ] متطلب قسم [ ] أخرى [ ] ب. إجباري [P] اختياري [ ]
3. السنة / المستوى الذي يقدم فيه المقرر
4. المتطلبات السابقة لهذا المقرر (إن وجدت) لا يوجد
5. المتطلبات المتزامنة مع هذا المقرر (إن وجدت)

6. **نمط الدراسة** (اختر كل ما ينطبق)

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

7. **ساعات الاتصال** (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	2
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	20

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر: يهدف هذا المقرر إلى تعريف الطالب بالمفاهيم الأساسية للأجهزة والمواد الرقمية، البرمجيات، ومفاهيمها، وتطبيقاتها. حيث يشمل تناول الموضوعات التالية: أنظمة الكمبيوتر التشغيلية، وتعريفات حول هندسة البرمجيات، مستودع البيانات الضخمة والخدمات السحابية، التقنيات المختلفة التي تستخدمها الشركات لبناء وتشغيل تطبيق أي مشروع، تعريف بأهم تطبيقات الهواتف المحمولة والشبكات وكيفية نقل المعلومات، أساسيات انترنت الأشياء والتعريف بتكنولوجيا الروبوتات وكيفية محاكاة الذكاء البشري والتعريف بأهمية الوعي المعلوماتي وأمن المعلومات.
2. الهدف الرئيس للمقرر يهدف المقرر إلى تعريف الطالب بالمصطلحات والمفاهيم الأساسية والتقنيات الحديثة المتعلقة باستخدام الحاسب الآلي. إضافة إلى ذلك، فإن زياد الوعي المعلوماتي فيما يتعلق بأهم التطبيقات المتعلقة بالتقنية الحديثة والمستخدمة لإنجاز المهام اليومية الأساسية بفاعلية يعتبر أحد الأهداف الرئيسة لهذا المقرر.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	التعرف على المفاهيم الأساسية لإدارة أنظمة الحاسب الالي والهواتف الذكية التشغيلية	
1.2	مناقشة أهم تطبيقات الحاسب الالي المختلفة وتصنيفاتها ومستودعات المعلومات الضخمة	

مخرجات التعلم للمقرر		رمز مخرج التعلم المرتبط للبرنامج
1.3	التعرف على أنواع الشبكات والشبكة العنكبوتية	
1.4	استنباط وتمييز طرق الاستخدام الآمن والغير آمن للتقنية	
2	**المهارات**	
2.1	تطبيق التقنيات الرقمية الحديثة لحل المشكلات	
2.2	اختيار طرق الاستخدام الآمنة للتقنية وتطبيقها بفعالية وكفاءة	
3	**القيم**	
3.1	تطبيق الجوانب الأخلاقية بحقوق الملكية والخصوصية	
3.2	المشاركة في المناقشة بفعالية في فريق العمل	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	أنظمة الحاسب الآلي التشغيلية	2
2	التقنيات الناشئة والعمل عبر الانترنت	2
3	قواعد المعلومات والخدمات السحابية	2
4	التقنيات المختلفة لبناء وتشغيل تطبيقات الحاسب الآلي	2
5	تطبيقات الهواتف المحمولة	2
6	الانترنت والشبكات	2
7	الذكاء الاصطناعي	2
8	انترنت الأشياء وتكنولوجيا الروبوتات	2
9	التحول الرقمي	2
10	الوعي المعلوماتي وأمن المعلومات	2
المجموع		20

د. التدريس والتقييم:

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

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1	**المعرفة والفهم**		
1.1	التعرف على المفاهيم الأساسية لإدارة أنظمة الحاسب الالي والهواتف الذكية التشغيلية	محاضرات، قراءات و تعلم ذاتي، التدريبات والانشطة في قاعة الدرس و خارجها، المواقع والأدوات المتوفرة عبر شبكة الانترنت	مناقشات عبر منصة التعليم الالكترونية
1.2	مناقشة أهم تطبيقات الحاسب الالي المختلفة وتصنيفاتها ومستودعات المعلومات الضخمة	محاضرات، قراءات و تعلم ذاتي، التدريبات والانشطة في قاعة الدرس و خارجها، المواقع والأدوات المتوفرة عبر شبكة الانترنت	مناقشات عبر منصة التعليم الالكترونية
1.3	التعرف على أنواع الشبكات والشبكة العنكبوتية	محاضرات، قراءات و تعلم ذاتي، التدريبات والانشطة في قاعة الدرس و خارجها، المواقع والأدوات المتوفرة عبر شبكة الانترنت	مناقشات عبر منصة التعليم الالكترونية
1.4	استنباط وتمييز طرق الاستخدام الآمن والغير آمن للتقنية	محاضرات، قراءات و تعلم ذاتي، التدريبات والانشطة في قاعة الدرس و خارجها،	مناقشات عبر منصة التعليم الالكترونية

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
		المواقع والأدوات المتوفرة عبر شبكة الانترنت	
2	**المهارات**		
2.1	تطبيق التقنيات الرقمية الحديثة لحل المشكلات	تعلم ذاتي، التدريبات والأنشطة، التطبيق العملي	مناقشات عبر منصة التعليم الالكترونية و الواجبات الأسبوعية
2.2	اختيار طرق الاستخدام الآمنة للتقنية وتطبيقها بفعالية وكفاءة	البحث الذاتي، الاقتناء عبر مواقع شبكة الانترنت	الواجبات الأسبوعية
3	**القيم**		
3.1	تطبيق الجوانب الأخلاقية بحقوق الملكية والخصوصية	مناقشات عبر المنصة	مناقشات عبر منصة التعليم الالكترونية و الواجبات الأسبوعية
3.2	المشاركة في المناقشة بفعالية في فريق العمل	مناقشات عبر المنصة	مناقشات عبر منصة التعليم الالكترونية و الواجبات الأسبوعية

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	واجبات (عبر منصة التعليم الالكترونية)	2 - 10	%20
2	اختبار تحريري نصفي	6 – 7	%20
3	اختبار تحريري نهائي	11	%60

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

يتم تخصيص ساعات مكتبية أسبوعية بمعدل ساعة أسبوعيا على الأقل
إرشاد الطالب إلى بعض المواقع الإلكترونية للإفادة منها. عقد حلقات نقاش بحثية يتم من خلالها شرح وتحليل بعض تطبيقات الحاسب الالي المستخدمة في حياتنا اليومية من خلال تطبيقات الأجهزة الذكية.

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	• كتاب أساسيات الحوسبة – خالد بكرو (2021) • On the Foundation of Computing, Giuseppe. P (2020), Oxford University Press
المراجع المساندة	• الأمن السيبراني مفهومه وخصائصه وسياسته – خالد سعد الشايع (2019) • الحاسب الآلي واستخداماته في التعليم – أولفت محمد فودة (2018) • اتجاهات في آمن المعلومات وأنواعها – ساري محمد الخالد (2018) • فضاءات البيانات الضخمة – عبد مرزوق الظهوري وفاطمة سعيد سالم (٢٠٢١) • الذكاء الاصطناعي ثورة في تقنيات العصر – أحمد حبيب بلال وعبد الله موسي (٢٠١٩) • أخلاقيات المعلومات - لوسيانو فلوريدي (٢٠١٩)
المصادر الإلكترونية	تحدد لاحقاً

أخرى	

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	معامل افتراضية نظام تعلم الكتروني
تجهيزات أخرى (تبعاً لطبيعة التخصص)	

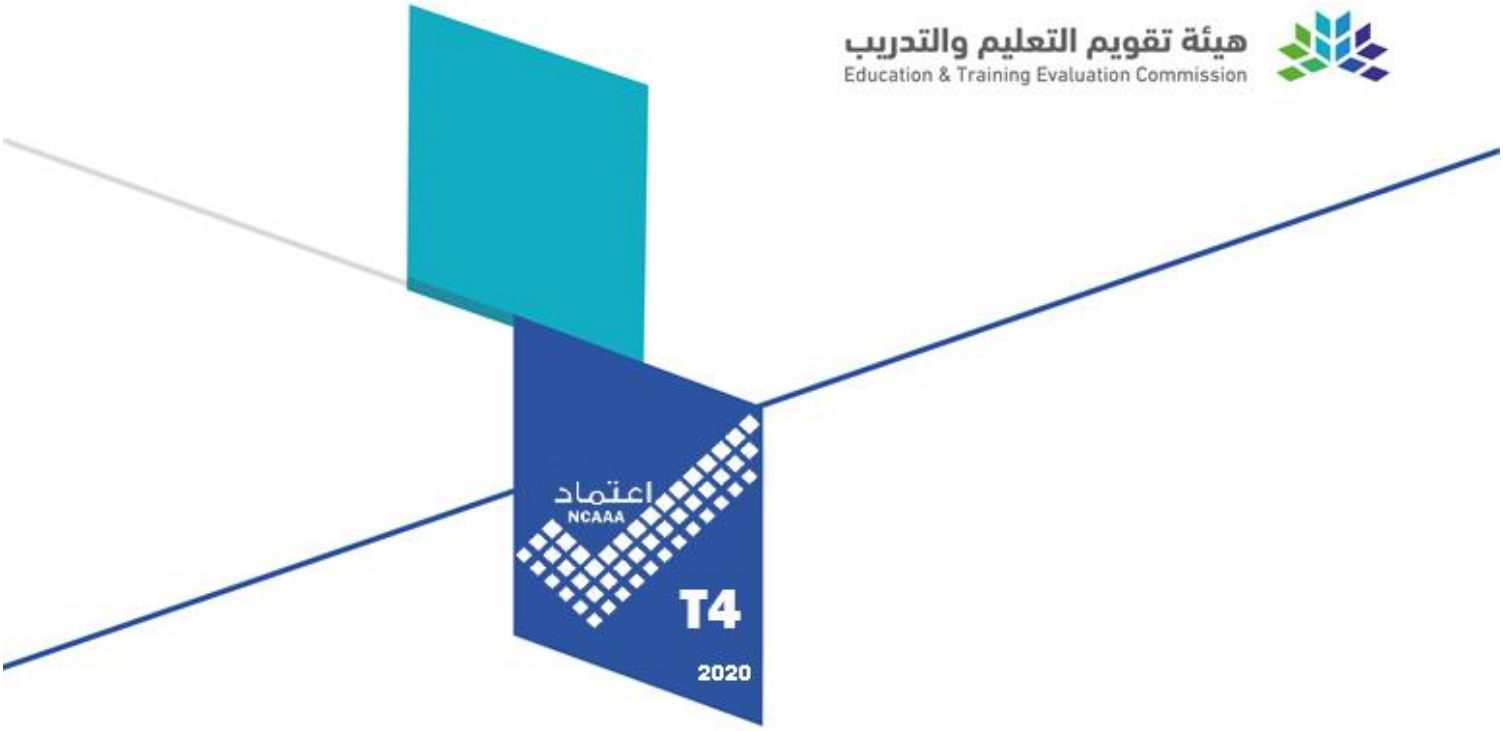
ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	الطلبة	استبيان
فاعلية طرق تقييم الطلاب	المراجع النظير	استبيان
مدى تحصيل مخرجات التعلم للمقرر	أعضاء هيئة التدريس	مباشرة، تقارير، استبيان
مصادر التعلم	المراجع النظير	استبيان

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	



Course Specifications

Course Title:	**Calculus (1) for Engineering**
Course Code:	**COE1101**
Program:	**Bachelor of Engineering**
Department:	**Construction Engineering** **Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

A. Course Identification

1. Credit hours: 4 (4+0)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 1 / 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**	✓	100
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The course is providing the student with good knowledge and understanding of the basic concepts of trigonometric calculus, functions and their properties, functions graphs, limits and the continuity of functions, rules of derivative and their engineering applications trigonometric functions and their inverse, the definition of the exponential function and its derivative, the definition of the natural exponential function and its derivatives, the definition of the logarithmic functions and its derivative, definition of the natural logarithmic functions its derivative, definition of the hyperbolic functions and their inverse, the derivative of the hyperbolic functions and their inverse, Maclaurin and Taylor expansions.

2. Course Main Objective

The objectives of this course are to provide students with a thorough understanding and good knowledge of the fundamental ideas of the basic concepts of functions and their properties with limits and continuity, derivatives and their definitions and basic rules, chain rule, derivatives of the important functions.

3. Course Learning Outcomes

	CLOs	Aligned-PLOs
1	**Knowledge and Understanding**	
1.1	Outline the important basic definitions and the tools of engineering mathematics and its concepts and learn how to apply them in actual engineering problems.	K2
1.2	Gain a high level of skills in how to formulate engineering problems based on mathematical basics and how to solve them.	K2
2	**Skills:**	
2.1	Students will be able to apply their knowledge of engineering mathematics area and the techniques used to solve engineering applications based on mathematical formulation	S1
2.2	Students will take the responsibility to solve examples	S4
2.3	Creativity to solve new mathematical models	S4
3	**Values:**	
3.1	Students will be able to use and apply their mathematical knowledge, skills and personal, social, and/or methodological abilities, in work or study situation	V2
3.2	Students will be able to use new techniques to solve many mathematical problems in their life and work	V3

C. Course Content

No	List of Topics	Contact Hours
1	**Chapter (1):** **Limits and continuity** Revision, Limits introduction, Estimating limits from graphs, Estimating limits from tables, Formal definition of limits (epsilon-delta), Properties of limits, Limits by direct substitution, Limits using algebraic manipulation, Strategy in finding limits, Types of discontinuities, Continuity at a point, Continuity over an interval, Infinite limits, Limits at infinity, Intermediate value theorem.	14
2	**Chapter (2):** **Derivatives: definition and basic rules** Average vs. instantaneous rate of change, Secant lines, Derivative definition, Estimating derivatives, Differentiability, Power rule, Derivative rules, constant, sum, difference, and constant multiple, Combining the power rule with other derivative rules, Derivatives of cos(x), sin(x), e^x, and ln(x), Product rule, Quotient rule, Derivatives of tan(x), cot(x), sec(x), and csc(x).	14
3	**Chapter (3):** **Derivatives: chain rule and other advanced topics** Chain rule, Implicit differentiation, Implicit differentiation (advanced examples), Differentiating inverse functions, Derivatives of inverse trigonometric functions, Strategy in differentiating functions, Differentiation using multiple rules: Higher derivatives, Disguised derivatives, Logarithmic differentiation, Maclaurin and Taylor Expansions.	12
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	Outline the important basic definitions and the tools of engineering mathematics and its concepts and learn how to apply them in actual engineering problems.	Traditional classroom	Homework, Quizzes, and Exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	Gain a high level of skills in how to formulate engineering problems based on mathematical basics and how to solve them.	Traditional classroom	Homework, Quizzes, and Exams
2.0	**Skills**		
2.1	Students will be able to apply their knowledge of engineering mathematics area and the techniques used to solve engineering applications based on mathematical formulation	Traditional classroom	Homework, Quizzes, and Exams
2.2	Students will take the responsibility to solve examples	Traditional classroom	Homework, Quizzes, and Exams
2.3	Creativity to solve new mathematical models	Traditional classroom	Homework, Quizzes, and Exams
3.0	**Values**		
3.1	Students will be able to use and apply their mathematical knowledge, skills and personal, social, and/or methodological abilities, in work or study situation	Traditional classroom	Homework, Quizzes, and Exams
3.2	Students will be able to use new techniques to solve many mathematical problems in their life and work	Traditional classroom	Homework, Quizzes, and Exams

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework	All the weeks	10%
2	Quizzes	Weeks: 2,3,4,6,7	20%
3	Midterm Exam	Week: 5	20%
4	Final Exam	Week: 11	50%

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

E. Student Academic Counseling and Support

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

The student can attend to the office of the lecturer of the course to ask for any comments and to understand what he missed in the class (Office hours).

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	1. Advanced Calculus and its applications to the engineering and physical sciences, Amazigo, John C., Rubenfeld, Lester, John Wiley, 1980. 2. Advanced calculus, Kaplan, Wilfred, 1915-Addison-Wesley, c 2003. 3. Applied calculus for scientists and engineers, a journey in dialogues, Blume, Frank., Piston, Calvin Edward, Jones and Bartlett Publishers, c 2005. 4. Calculus with application with analytical geometry, Edwin J. Purcell and Dale Varberg, New York, 1984.

Essential References Materials	
Electronic Materials	
Other Learning Materials	Projector

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show
Other Resources (Specify, e.g., if specific laboratory equipment is required, list requirements or attach a list)	NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students, Program Leaders, and Department	Direct
Teaching and assessment	Program Leaders, Department	Direct
Achievement of course learning outcomes	Program Leaders, Department	Direct

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:	**Chemistry 1 for Engineering**
Course Code:	**CHM1106**
Program:	**Bachelor of Engineering**
Department:	**Chemistry Department**
College:	**Al-Qunfudhah University College**
Institution:	**Umm Al-qura University**

Table of Contents

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 1/ 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**	**20**	**40%**
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other (Laboratory)**	**30**	**50%**

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**20**
2	**Laboratory/Studio**	**30**
3	**Tutorial**	
4	**Others** (specify)	
	Total	**50**

B. Course Objectives and Learning Outcomes

1. Course Description

This course is an introductory chemistry course for Engineering student.

2. Course Main Objective

The course introduces some basic principles of chemistry for engineering students preparing them for more advanced chemistry courses.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	**Write the electronic configuration of different elements**	K1
1.2	**Familiar with the atomic structure**	K1
1.3	**List the factors affecting equilibrium position and equilibrium concentration.**	K1

CLOs		Aligned PLOs
1.4	**List the various types of chemical reaction**	K1
1.5	**Recognize and know which elements in the Periodic Table**	K1
1.6	**familiar with the terms hydrocarbons, organic compounds containing oxygen and nitrogen atoms**	K2
2	**Skills :**	
2.1	**Predict molecular formulas using empirical formulas and molecular masses.**	S1
2.2	**Explain trends in the Periodic Table as they relate to Atomic Size, Ionization Energy and Electron Affinity.**	S1
2.3	**Calculate the concentration of a solution from the volume and the mass, or moles, of solute**	S1
2.4	**Calculate the pH of acids and bases**	S2
2.5	**Apply Hess's law for the calculation of enthalpy of reaction**	S2
2.6	Apply the principles of equilibrium to chemical systems using LeChatelier's Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures.	S2
3	**Values:**	
3.1	Ability to communicate results of work to classmates.	V2
3.2	Communicate effectively with his lecturer and colleagues	V1

C. Course Content

No	List of Topics	Contact Hours
1	Atomic structure	2
2	periodic table,	2
3	periodicity of elemental properties	2
4	Stoichiometry, atomic and molecular weights.	2
5	The mole, simple quantitative calculations with chemical reactions.	2
6	Basics of chemical equilibrium.	4
7	Acids and bases.	2
8	Thermochemistry.	4
Total		20

Topics to be Covered		
List of Experiments The practical part includes the following experiments:	No of Weeks	Contact hours
Introduction	**1**	**3**
Density	**1**	**3**
viscosity of liquids	**1**	**3**

Acids and bases and pH measurements and calculations.	**2**	**6**
Titration of vinegar.	**1**	**3**
Oxidation-reduction reactions.	**1**	**3**
Determination of the heat capacity of the calorimeter.	**1**	**3**
Review	**1**	**3**
Final Exam.	**1**	**3**

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 electronic configuration of different elements**	• **Lectures** • **Scientific discussion** **Web-based study**	**Quiz.** **Exam.** **Class discussion.**
1.2	**Familiar with the atomic structure**	• **Lectures** • **Scientific discussion** **Web-based study**	**Quiz.** **Exam.** **Class discussion.**
1.3	**List the factors affecting equilibrium position and equilibrium concentration.**		
1.4	**List the various types of chemical reaction**	• **Lectures** • **Library visits** • **Web-based study**	**Quiz.** **Exam.** **Class discussion.**
1.6	**Recognize and know which elements in the Periodic Table**	• **Lectures** • **Scientific discussion** • **Web-based study**	**Quiz.** **Exam.** **Class discussion.**
1.7	**familiar with the terms hydrocarbons, organic compounds containing oxygen and nitrogen atoms**	• **Lectures** • **Scientific discussion** • **Web-based study**	**Quiz.** **Exam.** **Class discussion.**
2.0	**Skills**		
2.1	**Predict molecular formulas using empirical formulas and molecular masses.**	• **Lectures** • **Scientific discussion** **Web-based study**	**Quiz.** **Exam.** **Class discussion.**
2.2	**Explain trends in the Periodic Table as they relate to Atomic Size, Ionization Energy and Electron Affinity.**	• **Lectures** • **Scientific discussion** **Web-based study**	**Quiz.** **Exam.** **Class discussion.**
2.3	**Calculate the concentration of a solution from the volume and the mass, or moles, of solute**	• **Lectures** • **Scientific discussion** **Web-based study**	**Quiz.** **Exam.** **Class discussion.**

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.4	Calculate the pH of acids and bases	• Lectures • Scientific discussion Web-based study	Quiz. Exam. Class discussion.
2.5	Apply Hess's law for the calculation of enthalpy of reaction	• Lectures • Scientific discussion • Web-based study	Quiz. Exam. Class discussion
2.6	Apply the principles of equilibrium to chemical systems using LeChatelier's Principle to predict the effects of concentration, pressure, and temperature changes on equilibrium mixtures.	• Lectures • Scientific discussion • Web-based study	Quiz. Exam. Class discussion
3.0	Values		
3.1	Demonstrate commitment to professional and academic values, and ethics in the field of chemistry	• Lectures • Scientific discussion	Class discussion. Assignment activities
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Class activities, Attendances and Duties	Throughout the Term	10%
2	Mid-Term Exam (s)	Week 6-8	20%
3	Lab Activity and Final Exam on Lab	Throughout the Term	30%
4	Final Exam.(2 hours exam)	End of the Term	40%
5	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 :

- We have faculty members to provide counselling and academic advice.
- 2 hours per week as office hours are available for discussion with the students.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**General Chemistry, by Chang, 9th ed., 2007, MacGraw-Hill.**
Essential References Materials	**Steven S. Zumdahl, Susan A. Zumdahl, 9th ed., 2009, New York.**
Electronic Materials	**Power point lectures.**
Other Learning Materials	**Course available online**

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	**Classrooms. Providing hall of teaching aids including computers and projector.**
Technology Resources (AV, data show, Smart Board, software, etc.)	**Room equipped with computer and projector and TV**
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	------

G. Course Quality Evaluation

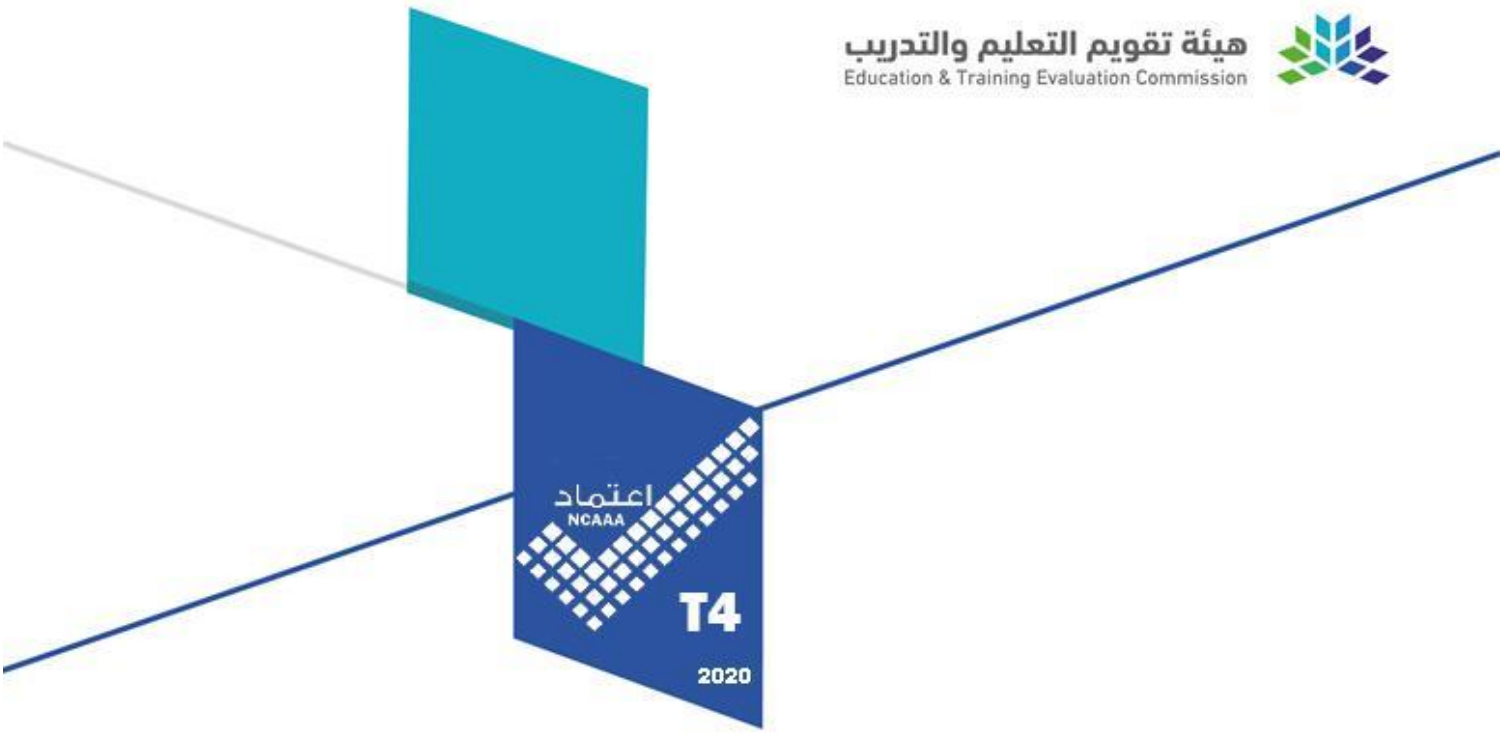
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	**Students**	**Indirect (Online survey at the end of the semester (Program survey, Experience survey &course evaluation) .**
Effectiveness of teaching	**Faculty members**	**Direct (classroom observation using the Teaching Observation**
Achievement of course learning outcomes.	**Faculty members**	**Direct (60% of the students achieved ≥ 70% of the degree assigned to the course learning outcome).**
Assessment of faculty members	**Department head**	**Direct (Performance Assessment of faculty** **Indirect (feedback from faculty and students).**
Quality of learning resources	**Students**	**Direct (feedback from faculty).** **Indirect (online survey at the end of the semester.**
Effectiveness of teaching Strategies for Learning Outcomes.	**Faculty members**	**Direct (Comments of course instructors regarding evaluation of teaching strategies for learning outcomes mentioned in course 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:	**Physics 1 for Engineering**
Course Code:	**IE1101**
Program:	**Bachelor of Engineering**
Department:	**Construction Engineering** **Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 4 (3+1)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 1 / 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**	30	50 %
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**	30 (lab)	50 %

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

The course will cover the principle of general physics for engineering students, such as measurements, vectors, Motion in one dimensions, Newton's laws, work and energy.

2. Course Main Objective

The course is design to provide students with some basic and essential concepts in general physics. The main subjects that this course covers are listed below.
In addition to these items, the students should gain practical skills through conducting experiments in the laboratory.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and understanding**	
1.1	Define the concepts of the measurements, length, time, and weight.	K1

CLOs		Aligned PLOs
1.2	Differentiate between the vectors and the scalars	K2
1.3		
2	**Skills:**	
2.1	Apply Newton's laws of motion to calculate the position, velocity and acceleration.	S1
2.2	Explain the motion in one and two dimensions.	S2
2.3	Relate force to potential and kinetic energies	S2
3	**Values:**	
3.1	Work effectively responsibly in teamwork	V2
3.2		

C. Course Content

No	List of Topics	Contact Hours
1	Measurement Measuring Things The International System of Units Changing Units Time Mass	**3**
2	Motion Along a Straight Line Motion Position and Displacement Average Velocity and Average Speed Instantaneous Velocity and Speed Acceleration Constant Acceleration Free-Fall Acceleration	**4**
3	Vectors Vectors and Scalars Adding Vectors Geometrically Components of Vectors Unit Vectors Adding Vectors by Components Multiplying Vectors	**4**
4	Motion in Two and Three Dimensions Position and Displacement Average Velocity and Instantaneous Velocity Average Acceleration and Instantaneous Acceleration Projectile Motion Uniform Circular Motion	**5**
5	Force and Motion Newton's First Law Force Mass Newton's Second Law Newton's Third Law Applying Newton's Laws	**6**

	Friction (static and dynamic coefficients)	
6	Kinetic Energy and Work Kinetic Energy Work Work and Kinetic Energy Power	4
	Potential Energy and Conservation of Energy Potential Energy Determining Potential Energy Values Conservation of Mechanical Energy Work Done on a System by an External Force Conservation of Energy	4
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	Define the concepts of the measurements, length, time, and weight.	1. Demonstrating the basic principles through lectures. 2. Discussing phenomena with illustrating pictures and diagrams. 3. Lecturing method: ● Board, Power point. ● Discussions ● Start each chapter by general idea and the benefit of it. 4. Perform some experiments in the Laboratory	1. Solve some examples during the lecture. 2. Discussions during the lectures 3. Exams: a) Quizzes. b) Midterm exams. c) Final exam. d) Practical exams.
1.2	Differentiate between the vectors and the scalars		
1.3			
2.0	**Skills**		
2.1	Apply Newton's laws of motion to calculate the position, velocity and acceleration.	1. Solve some problems in class. 2. Explain some proofs during lectures. 3. Encourage students to participate in solving problems.	1. Solve some examples during the lecture. 2. Discussions during the lectures 3. Exams: a) Quizzes. b) Midterm exams. c) Final exam. d) Practical exams.
2.2	Explain the motion in one and two dimensions.		
2.3	Relate force to potential and kinetic energies		
3.0	**Values**		
3.1	Work effectively responsibly in teamwork	● Organize the students as a small group in the lab to conduct experiments and prepare reports.	● Evaluate the scientific reports. ● Discussing the reports with each teamwork. ● Evaluate the reports of each student.
3.2			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm exam	10th	20 %
2	Homework & quizzes	All weeks	10 %
3	Lab reports and final exam	End of the semester	20 %
4	Final written exam	End of the semester	50%

***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:

Each student has the chance to meet and discuss with his instructor in class and during office hours. Additionally, students can contact the coordinator of the course should they have any other issue in the course.)

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Halliday & Resnick, Jearl Walker, "Fundamentals of Physics" 10th Edition (2018)
Essential References Materials	
Electronic Materials	• Electronic materials of the required textbook and its PowerPoints slides • Umm Al-Qura LMS related contents
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	● Classroom ● Laboratory ● Library
Technology Resources (AV, data show, Smart Board, software, etc.)	● Data show ● Black Bord
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

G. Course Quality Evaluation

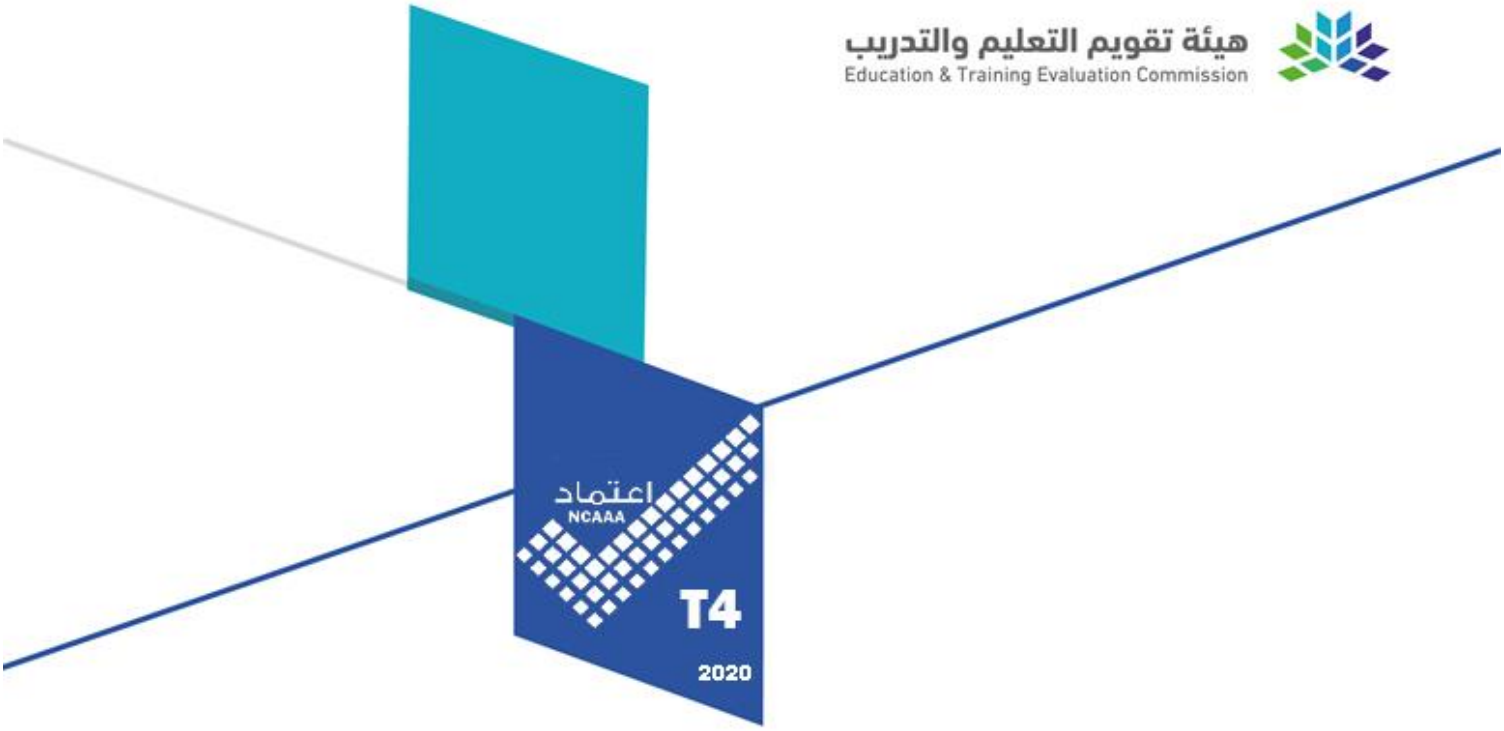
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching Strategies	Students	Questionnaire
Effectiveness of student assessment	Instructors of the course	Peer review of exam marking
Extent of achievement of course learning outcomes	Instructor	Course report
Quality of learning resources	Instructor	Course 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:	English Language 2
Course Code:	ELCE1202
Program:	Bachelor in EMI Colleges (Medical Colleges/ College of Engineering/ College of Computer Sciences/ College of Business Administration/ Applied Sciences)
Department:	English Language Centre
College:	English Language Centre
Institution:	Umm Al Qura University

Table of Contents

A. Course Identification

1. Credit hours: 4 hours
2. Course type **a.** University ☐ College ■ Department ☐ Others ☐ **b.** Required ■ Elective ☐
3. Level/year at which this course is offered: **1st Year**
4. Pre-requisites for this course (if any)**:** EMI Colleges – English Language 1
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**	12 hours per week	75%
2	**Blended**	16 hours per week	100%
3	**E-learning**	4 hours per week	25%
4	**Distance learning**	0	0
5	**Other**	0	0

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	(16 hours) X (10 weeks)
2	**Laboratory/Studio**	0
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	160 hours

B. Course Objectives and Learning Outcomes

1. Course Description

English Language 2 is a single-level, English for General Purposes (EGP) course. All students who are admitted to Bachelor in the EMI Colleges (Medical Colleges/ College of Engineering/ College of Computer Sciences/ College of Business Administration/ Applied Sciences) are required to take this course in the second semester of the first year of their program. The course is offered in 10 weeks with a 16-hour-per week teaching plan covering the four language skills. It intends to develop students' knowledge and ability of English language in all major skills which include reading, writing, listening, and speaking, as well as in sub-skills including grammar, vocabulary, and pronunciation.

2. Course Main Objective

English Language 2 is one level taking students from (CEFR) A2 to B1.

3. Course Learning Outcomes

CLOs	
1.0	**Knowledge**
1.1	**By the end of the course, the students are expected to be able to:** exhibit adequate comprehension of simple and complex spoken materials at the B1 level through recognizing key words, stress, intonation, pauses, and linkers in fast speech. - understand the main ideas of conversations, presentations, radio programmes, news reports, podcasts, discussions and interviews - identify main ideas and supporting ideas - develop listening for detail, examples and reasons - listen for opinions, attitude, and identify fact from opinion - identify rhetorical questions in a presentation - recognize how discourse markers help identify main points, especially in academic discussions, presentations and lectures
1.2	demonstrate an understanding of grammar at the B1 level, incorporating tenses, part of speech, modal auxiliaries, and sentence structure. - use indirect questions "Can you tell me where …? I'd like to know what…" - use discourse markers for contrasting ideas - expand knowledge of present perfect to include how long something has occurred, and whether something has been done or not - use modals for giving advice "I would…/ you should/ could…" - be aware of the difference in use of present continuous, going to and will for the future - use -ed and -ing adjectives correctly to describe feelings or opinions - use the past simple and past continuous correctly in narrative - use conditionals for present and future real conditions, and for unreal conditions to talk about imaginary situations or to express wishes - use present and past passive tenses when a product is more important than the producer - use used to for past habits - use modals for necessity, obligation, etc
1.3	recognize and use lexical items such as words, collocations, and derivatives, both in general and academic contexts at the B1 level. - develop vocabulary of the topics covered in order to be able to talk about them with others - develop a bank of vocabulary for functional use, such as for describing the condition of possessions, for making decisions and plans, losing and finding things, describing progress - use linking words for contrast, such as *although, but, however, on the other hand*. Be aware of their position in sentences and whether they are used in formal or informal texts - use a range of vocabulary for describing graphs - use *this* and *these* for referencing within a text - be aware of collocations, such as *significant advantage, key point*, and how they can help to follow and understand a talk - be aware of the different types of phrasal verb - provide definitions of difficult vocabulary in presentations, using expressions such as '*what I mean is…' 'that's when…'*
2.0	**Skills**
2.1 2.1.1	**Cognitive Skills:** demonstrate comprehension of simple and complex written texts at the B1 level through applying the skills of scanning, skimming, guessing from context and through recognizing linking words. - use scanning (to find information quickly) and skimming skills (to predict the meaning of the text from visuals, titles or common words) - identify the author or speaker's audience and purpose - read for opinions, attitude, and identify fact from opinion - understand meaning from context in both written and spoken texts

2.1.2	compose coherent/cohesive texts at the B1 level for various general and academic purposes through applying the skills of brainstorming ideas, composing an outline, and editing/revision. - write short texts, such as a travel post, movie review, an ad to request something, etc - write an email, short story or anecdote of more than one paragraph - use an appropriate opening and closing for a formal email - write a description of a trend (describing statistics), using notes - write complex sentences - support opinions with facts in formal (academic) writing - use a variety of linking words - use parallelism for bullet points in presentations and resumés
2.1.3	communicate effectively in spoken language at the B1 level in tasks such as oral presentations, group discussion, expressing opinions, and short talks. - discuss familiar and unfamiliar topics - reach a common consensus, eg who should be class leader - give short presentations - rank items in order of importance - show interest using short questions - repeat to show comprehension
2.2	**Critical Thinking** - develop well-reasoned, persuasive arguments - analyze sources of information when conducting research - evaluate things from a different perspective, eg what makes other people happy - evaluate and rank items according to usefulness or importance - evaluate arguments (evidence of support or relevance) - analyze advantages and disadvantages - infer meaning from written or spoken text - identify a specific audience and consider their need - appraise a text according to criteria, and provide feedback - identify inconsistencies and errors - appraise arguments - evaluate the approach of others and reflect on personal assumptions, beliefs and values - understand the links between ideas - organize ideas in a logical, systematic way - evaluate problems and propose solutions - reflect on knowledge gained
2.3	**Communication, Information Technology, Numerical** - research, discuss and present information - describe and give personal opinions on a variety of topics - express general beliefs - paraphrase where needed - give recommendations - present persuasively
2.4	**Psychomotor** - give confident, persuasive presentations -take part in a role play -use intonation to show mood: express agreement, surprise, confidence, trepidation, etc. -use softening techniques when expressing opinions -be aware of 'chunking' in speech -use linking and weak forms in sentences
3.0	**Values**
3.1	develop life-long learning strategies so that students can take full responsibility of their English language skill development.
3.2	develop academic integrity.

3.3	collaborate in knowledge building and co-operate with peers: - hold short discussions with a partner to activate knowledge before listening tasks -hold short discussions with a partner to synthesize knowledge post-listening -work with others to brainstorm, create a convincing argument -give feedback to peers on writing, presentations, etc. -ask for opinions and check information
3.4	take the responsibilities to meet the requirements of the jobs market: - write a personal statement - write a resumé - be aware of the importance of good time management - be aware of the importance of turn-taking in debates or discussions - be aware of learning from failure

C. Course Content

No	List of Topics	Contact Hours
	Evolve 3 Special Edition: Level 2 (B1)	
1	Unit 1: Who We Are Personality, getting to know someone, spending money, qualities of a leader Video: What's the right job for you?	
2	Unit 2: So Much Stuff Personal possessions, describing things, switching topics, collecting things, the story of a person or place, essential items to take Video: Collections, old and new	
3	Unit 3: Smart Moves Describing a city, getting around, asking for and giving directions, a written personal statement, describing changes and trends, a 'secret spot' Video: One day in…	
4	Unit 4: Think First Opinions and reactions ("*it's interesting*"/ "*I'm interested*"), planning a trip, reassurance, describing plans, travel posts, microadventure Video: Making plans	
5	Unit 5: And then … Lost and found, needing and giving help, surprises, storytelling, selfies, 'Believe it or not' Video: Lost and found	
6	Unit 6: Impact Big-city problems, problems and solutions, concern and relief, a podcast point of view, Big-city life, 'green' city planning Video: Green in the city	
7	Unit 7: Entertain Us Reading, TV and movies, declining invites, a movie review, children and technology, changing tastes Video: The history of cinema	
8	Unit 8: Getting There Recent activity, describing progress, catching up, time management, hobbies, a better life Video: Serious hobbies	
9	Unit 9: Make It Work College subjects, studying or working from home (WFH), confidence – or lack of it, a resumé, bilingual education, a perfect job Video: The college life	

10	Unit 10: Why We Buy 'Green' clothing, product origins, a good choice? Product feedback, souvenirs, psychology of shopping Video: Tricks of the ad world	
11	Unit 11: Pushing Yourself Success, unreal situations, giving and responding to opinions, your comfort zone, the psychology of fear, success stories Video: Testing your physical limits	
12	Unit 12: Life's Little Lessons Accidents, extreme experiences, describing and asking about feelings, an anecdote, learning a skill Video: I learned my lesson!	
Total		

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**		
1.1	**By the end of the course, the students are expected to be able to:** exhibit adequate comprehension of simple and complex spoken materials at the B1 level through recognizing key words, stress, intonation, pauses, and linkers in fast speech. - understand the main ideas of conversations, presentations, radio programmes, news reports, podcasts, discussions and interviews - identify main ideas and supporting ideas - develop listening for detail, examples and reasons - listen for opinions, attitude, and identify fact from opinion - identify rhetorical questions in a presentation - recognize how discourse markers help identify main points, especially in academic discussions, presentations and lectures	Listening exercises	Listening mid-term exam Listening final exam

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	demonstrate an understanding of grammar at the B1 level, incorporating tenses, part of speech, modal auxiliaries, and sentence structure. - use indirect questions "Can you tell me where …? I'd like to know what…" - use discourse markers for contrasting ideas - expand knowledge of present perfect to include how long something has occurred, and whether something has been done or not - use modals for giving advice "I would…/ you should/ could…" - be aware of the difference in use of present continuous, going to and will for the future - use -ed and -ing adjectives correctly to describe feelings or opinions - use the past simple and past continuous correctly in narrative - use conditionals for present and future real conditions, and for unreal conditions to talk about imaginary situations or to express wishes - use present and past passive tenses when a product is more important than the producer - use used to for past habits - use modals for necessity, obligation, etc.	Grammar exercises	Midterm Exam Continuous writing assessment Continuous speaking assessment Quizzes Writing Final Exam Final Exam
1.3	recognize and use lexical items such as words, collocations, and derivatives, both in general and academic contexts at the B1 level. - develop vocabulary of the topics covered in order to be able to talk about them with others - develop a bank of vocabulary for functional use, such as for describing the condition of possessions, for making decisions and plans, losing and finding things, describing progress - use linking words for contrast, such as although, but, however, on the other hand. Be aware of their position in sentences and whether they are used in formal or informal texts - use a range of vocabulary for describing graphs - use this and these for referencing within a text - be aware of collocations, such as significant advantage, key point, and how they can help to follow and understand a talk - be aware of the different types of phrasal verb - provide definitions of difficult vocabulary in presentations, using expressions such as 'what I mean is…' 'that's when…'	Writing, reading, and vocabulary exercises	Midterm Exam Continuous writing assessment Continuous speaking assessment Quizzes Writing Final Exam Final Exam

2.0	Skills		
2.1 2.1.1	**Cognitive Skills:** demonstrate comprehension of simple and complex written texts at the B1 level through applying the skills of scanning, skimming, guessing from context and through recognizing linking words. - use scanning (to find information quickly) and skimming skills (to predict the meaning of the text from visuals, titles or common words) - identify the author or speaker's audience and purpose - read for opinions, attitude, and identify fact from opinion - understand meaning from context in both written and spoken texts	Reading comprehension exercises	Classroom discussion Midterm exam Final exam
2.1.2	compose coherent/cohesive texts at the B1 level for various general and academic purposes through applying the skills of brainstorming ideas, composing an outline, and editing/revision. - write short texts, such as a travel post, movie review, an ad to request something, etc - write an email, short story or anecdote of more than one paragraph - use an appropriate opening and closing for a formal email - write a description of a trend (describing statistics), using notes - write complex sentences - support opinions with facts in formal (academic) writing - use a variety of linking words - use parallelism for bullet points in presentations and resumés	Writing exercises	Continuous writing assessment Writing Final Exam
2.1.3	communicate effectively in spoken language at the B1 level in tasks such as oral presentations, group discussion, expressing opinions, and short talks. - discuss familiar and unfamiliar topics - -reach a common consensus, eg who should be class leader - give short presentations - rank items in order of importance - show interest using short questions - repeat to show comprehension	Speaking exercises Discussion Presentation, eg an advertisement, a tourist campaign, a YouTube video	Continuous speaking assessment

2.2	**Critical Thinking** - develop well-reasoned, persuasive arguments - analyze sources of information when conducting research - evaluate things from a different perspective, eg what makes other people happy - evaluate and rank items according to usefulness or importance - evaluate arguments (evidence of support or relevance) - analyze advantages and disadvantages - infer meaning from written or spoken text - identify a specific audience and consider their need - appraise a text according to criteria, and provide feedback - identify inconsistencies and errors - appraise arguments - evaluate the approach of others and reflect on personal assumptions, beliefs and values - understand the links between ideas - organize ideas in a logical, systematic way - evaluate problems and propose solutions - reflect on knowledge gained		
2.3	**Communication, Information Technology, Numerical** - research, discuss and present information - describe and give personal opinions on a variety of topics - express general beliefs - paraphrase where needed - give recommendations - present persuasively	Demonstrations Active self-learning Pair work Group work e-learning Online material (Encourage students to make their presentations to small groups in the class)	Monitoring students' progress Evaluating the individual contribution Evaluating the teamwork Evaluating the final product (Evaluation of presentations may be by peers)
2.4	**Psychomotor** - give confident, persuasive presentations - take part in a role play - use intonation to show mood: express agreement, surprise, confidence, trepidation, etc - use softening techniques when expressing opinions - be aware of 'chunking' in speech - use linking and weak forms in sentences	Active self-learning Pair work Group work	Monitoring students' progress

3.0	Values		
3.1	develop life-long learning strategies so that students can take full responsibility of their English language skill development.	Cambridge application Cambridge LMS	Built-in immediate feedback
3.2	develop academic integrity.	Writing exercises	Continuous writing assessment Continuous speaking assessment Writing Final Exam
3.3	collaborate in knowledge building and co-operate with peers: - hold short discussions with a partner to activate knowledge before listening tasks - hold short discussions with a partner to synthesize knowledge post-listening - work with others to brainstorm, create a convincing argument - give feedback to peers on writing, presentations, etc - ask for opinions and check information	Peer work Group work	Evaluating the individual contribution Evaluating the teamwork Evaluating the final product
3.4	take the responsibilities to meet the requirements of the jobs market: - write a personal statement - write a resumé - be aware of the importance of good time management - be aware of the importance of turn-taking in debates or discussions - be aware of learning from failure	Individual, peer and group work inside classrooms. Extramural language work to master the competencies at this language level.	Monitoring students' progress

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	The 5th	30
2	Listening Mid-term Exam	The 6th	5
3	Continuous writing assessment	from the 1st to the 10th	5
4	Continuous speaking assessment	from the 1st to the 10th	5
5	3 Quizzes (average)	3rd/ 6th/ 9th	5
6	Online Practice	from the 1st to the 10th	5
6	Listening Final Exam	The 10th	5
7	Writing Final Exam	The 11th	5
8	Final Exam	The 11th	35
	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: Course instructors are ready to answer all students' queries during their lectures or during office hours and they can be reached by personal meeting, e-mails, WhatsApp or telegram. All students have the e-mail and office hours of the course instructor through student handouts distributed to the student at the beginning of each semester.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Hendra, L., Ibbotson, M., O'Dell, K., Tilbury, A. (2019). Evolve 3 Special Edition: Student's Book with Practice Extra. Cambridge University Press. UK: Cambridge University Press.
Essential References Materials	Multimedia
Electronic Materials	Cambridge LMS
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms
Technology Resources (AV, data show, Smart Board, software, etc.)	data show, Smart Board, and Cambridge application
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	Blackboard

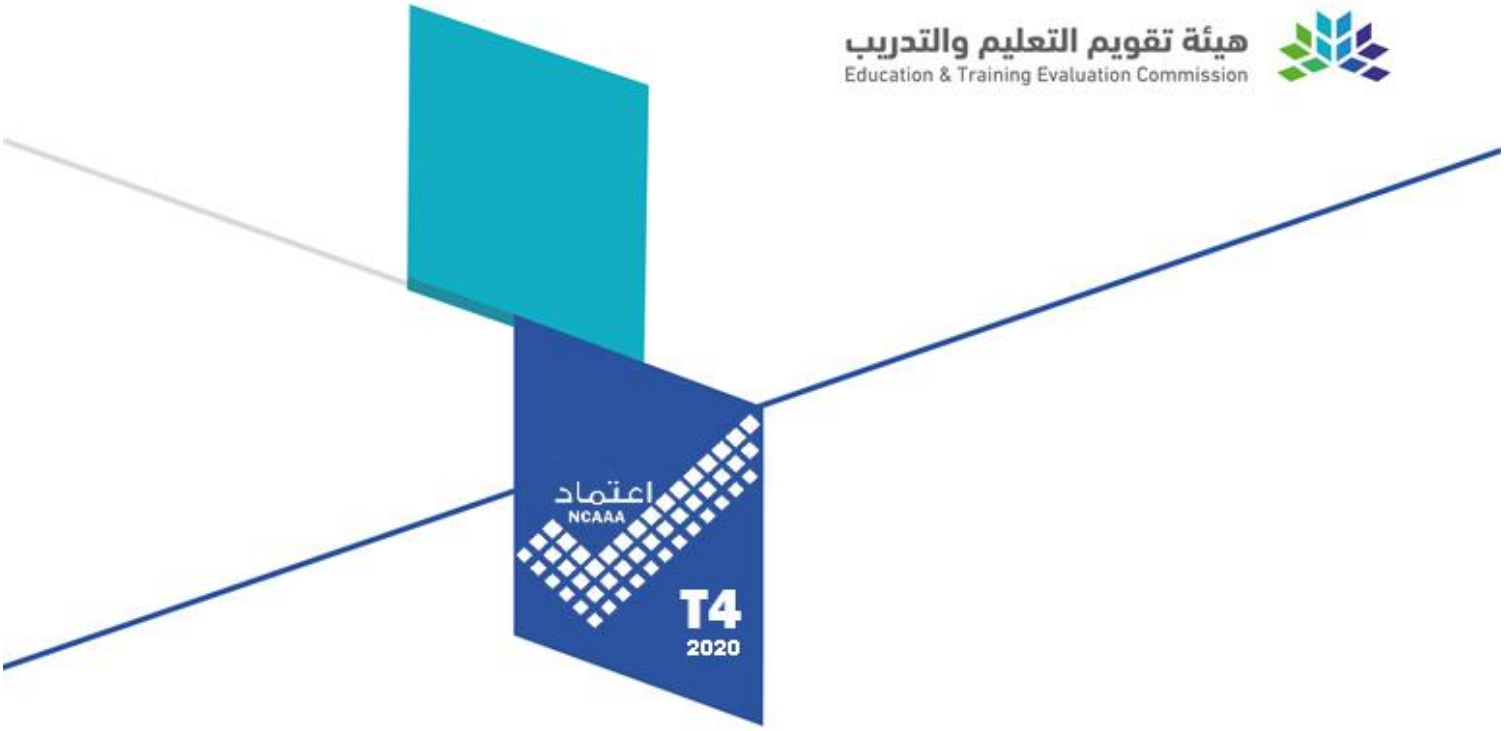
G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources.	Faculty members	Direct: Course reports
Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources.	University students	Direct: Evaluation surveys

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	Curriculum and Accreditation Committees
Reference No.	
Date	Dec 28.2021



توصيف المقرر الدراسي

اسم المقرر:	القرآن الكريم (1)
رمز المقرر:	**(QR1101)**
البرنامج:	**البكالوريوس**
القسم العلمي:	**القراءات**
الكلية:	**الدعوة وأصول الدين**
المؤسسة:	**جامعة أم القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: ساعتان.

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:

لايوجد

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		
4	التعليم عن بعد	20 ساعة	%100
5	أخرى		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	20 ساعة
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	20 ساعة

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

يشمل المقرر على أربعة محاور:

1- حفظ نصف الجزء الثلاثين من القرآن: من سورة الأعلى إلى سورة الناس.

٢- تلاوة ثلاثة أجزاء: من سورة المجادلة إلى سورة الناس.

3- دراسة أحكام التَّجويد.

4- شرح غريب الكلمات: من سورة الأعلى إلى سورة الناس.

2. الهدف الرئيس للمقرر

تعليم الطُّلَّاب النُّطق السَّليم لكتاب الله -عزَّ وجلَّ-، وفق طرق الأداء المعتبرة، مع حفظ حزب واحدٍ من القرآن الكريم.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1.1	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.	
1.3	أن يتعرف الطالب على أحكام التجويد.	
1.4	أن يعَرِّف الطَّالب غريب القرآن.	
2	**المهارات**	
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.	
2.3	أن يوضح معاني غريب القرآن.	
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.	
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.	
3	**القيم**	
3.1	أن يعمل ضمن فريق المقرر بكفاءة، ومسؤولية.	
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.	
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	مقدِّمة تعريفيَّة عن فضل تعلم القرآن الكريم، وأقسام اللحن الجلي والخفي، وتصحيح تلاوة سورتي الأعلى والغاشية مع التَّكليف بحفظهما مع شرح غريب القرآن.	2
2	تسميع سورتي الأعلى والغاشية، تصحيح تلاوة سورتي الفجر والبلد مع التَّكليف بحفظهما، مع شرح غريب القرآن، تلاوة سورتي المجادلة والحشر، شرح درس التجويد (باب أحكام النون الساكنة والتنوين).	2
3	تسميع سورتي الفجر والبلد، تصحيح تلاوة سورتي الشمس والليل مع التَّكليف بحفظهما. مع شرح غريب القرآن، تلاوة سورة الممتحنة والصف والجمعة.	2
4	تسميع سورتي الشمس والليل، تصحيح تلاوة سور الضحى، الشرح، التين، مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة المنافقون، التغابن والطلاق، شرح درس التجويد (باب أحكام الميم الساكنة).	2
5	تسميع سور الضحى، الشرح، التين، تصحيح تلاوة سورتي العلق والقدر مع التَّكليف بحفظهما، مع شرح غريب القرآن، تلاوة سور التحريم، والملك، والقلم.	2
6	تسميع سورتي العلق والقدر، تصحيح تلاوة سورتي البينة والزلزلة، مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة الحاقة، والمعارج، ونوح، والجن، شرح درس التجويد (باب أحكام النون والميم المشددتين).	2
7	تسميع سورتي البينة والزلزلة، تصحيح تلاوة سور العاديات، والقارعة، والتكاثر، والعصر مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سور المزمل، والمدثر، والقيامة، والإنسان، والمرسلات.	2
8	تسميع العاديات، والقارعة، والتكاثر، والعصر، تصحيح تلاوة سور الهمزة، والفيل، وقريش، الماعون، والكوثر، والكافرون، والنصر والمسد، الإخلاص، والمعوذتين، مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سور النبأ، والنازعات، وعبس، والتكوير، والانفطار، والمطففين، والانشقاق.	2

9	تسميع سور الهمزة، والفيل، وقريش، والماعون، تلاوة من سورة البروج إلى سورة الناس.	2
10	تسميع سور الكوثر، والكافرون، والنصر والمسد، الإخلاص، والمعوذتين.	2
المجموع		20

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	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	المحاضرة التلقي والسماع العروض التقديمية	التقييم المستمر الاختبارات الشفوية
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.		
1.3	أن يتعرف الطالب على أحكام التجويد.		
1.4	أن يعرِّف الطَّالب غريب القرآن.		
2.0	**المهارات**		
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	المحاضرة الحوار والمناقشة التلقِّي والمحاكاة العرض والاستماع التَّعلم الذاتي العروض التقديمية أسلوب حل المشكلات	الاختبارات الشفوية الاختبارات التحريرية
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.		
2.3	أن يوضح معاني غريب القرآن.		
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.		
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.		
3.0	**القيم**		
3.1	أن يعمل ضمن فريق المقرر بكفاءة ومسؤولية.	التَّعلم الذاتي التَّعليم التعاوني حلقات النقاش ملف الإنجاز	بطاقة الملاحظة
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.		
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.		

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	**المشاركة وحفظ الآيات وتلاوتها**	مستمر	%20
2	**الاختبار النصفي**	السادس	%20
3	**الاختبار النهائي**	العاشر	%60

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

هـ ـ أنشطة الإرشاد الأكاديمي والدعم الطلابي:

– ساعات الإرشاد الأكاديمي (السَّاعات المكتبية للأستاذ).
– مساعدة الطلبة في توفير المصادر غير المتوفرة في مكتبة الكلِّيَّة.
– مساعدة الطلبة ذوي الاحتياجات الخاصة (ذوي البصيرة) في توفير المصادر ببرايل.
– إحالة الطلبة الوافدات والمتعثرات والموهوبات على لجنة الإرشاد الأكاديمي بالقسم والجهات المعنيَّة بشؤون الطَّلبة.
–تشكيل لجنة تطوير المقرَّرات بالبرنامج، تعنى بمراجعة المفردات وطرق تدريسها وتقييمها، وتقييم المخرجات من خلال المتابعة المستمرة للتَّغذية الرَّاجعة من قبل الطَّلبة وتقارير المدرِّسين، ثم تقدِّم توصياتها لمجلس القسم لتأخذ مجراها الأكاديمي.
–إعداد الأسئلة التَّقويميَّة نهاية الدَّرس والأنشطة المنزليَّة.
–توجيه الطُّلاب لسماع تلاوات المقرئين المجوِّدين من خلال الوسائل المتاحة.
–المقارنة المرجعيَّة بالمقرَّرات المشابهة له في الجهات الأكاديميَّة الأخرى.

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	–القرآن الكريم. – الميسر في غريب القرآن الكريم المطبوع بمجمع الملك فهد لطباعة المصحف الشريف. – التجويد الميسر المطبوع بمجمع الملك فهد لطباعة المصحف الشريف.
المراجع المساندة	- البرهان في تجويد القرآن/ محمد الصادق قمحاوي. - هداية القارئ إلى تجويد كلام البارئ/ عبد الفتاح السيد عجمي المرصفي. - مذكرة في علم التجويد/ محمد نبهان بن حسين مصري.
المصادر الإلكترونية	- موقع مكتبة جامعة أم القرى. - المكتبة الوقفية. - المكتبة الشاملة. - ملتقى أهل التفسير. - منتديات قراء القرآن.
أخرى	-

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	–قاعات دراسية بها عدد من الكراسي والطاولات للاختبارات النصفية والنهائية.
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	– الحاسب الآلي. –التطبيقات الالكترونية.
تجهيزات أخرى (تبعاً لطبيعة التخصص)	–

ز. تقويم جودة المقرر:

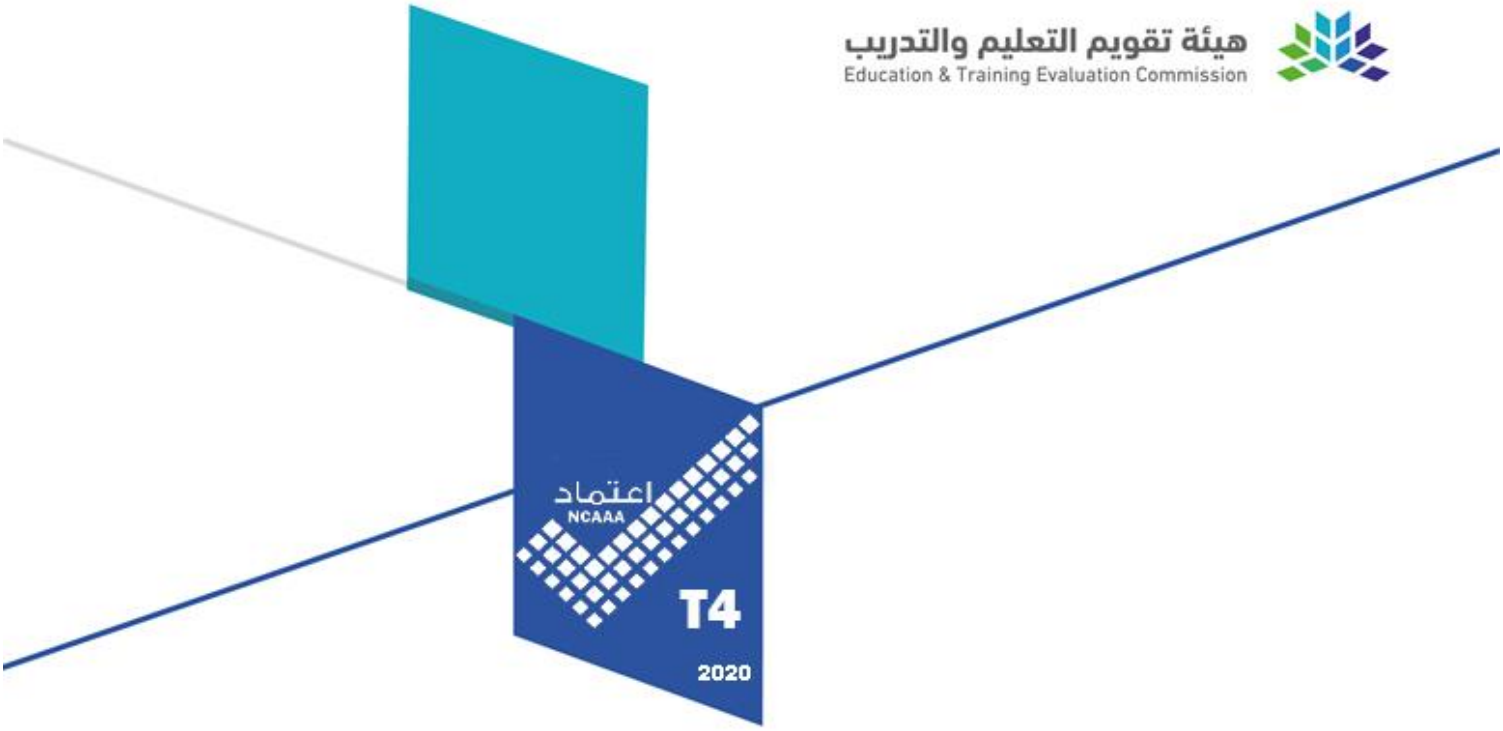
مجالات التقويم	المقيمون	طرق التقييم
تقويم فاعليَّة استراتيجيات التَّدريس	أستاذ زميل يدرِّس نفس المقرَّر	مباشر: الزِّيارة للفصل وتقرير فاعليَّة

مجالات التقويم	المقيمون	طرق التقييم
المستخدمة		استراتيجيَّات التَّدريس المستخدمة.
طرق تقييم الطُّلَّاب	الطُّلَّاب	غير مباشر: استبانة تقييم المقرَّر المتاحة على الموقع الإلكتروني.
مدى تحصيل مخرجات التَّعلم للمقرَّر	قيادة البرنامج	غير مباشر: تقرير المقرَّر.

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	



Course Specifications

Course Title:	**Calculus (2) for Engineering**
Course Code:	**COE1102**
Program:	**Bachelor of Engineering**
Department:	**Construction Engineering** **Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

A. Course Identification

1. Credit hours: 4 (4+0)
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)**: Calculus (1) for Engineering COE1101**
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**	✓	100
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The course is providing the student with good knowledge and understanding of the basic concepts of Meaning of the derivative in context, Straight-line motion: Rate of change, Introduction to related rates, Solving related rates problems: Approximation with local linearity, L'Hôpital's rule, Composite exponential functions, Mean value theorem, extreme value theorem and critical points, Intervals on which a function is increasing or decreasing, Relative (local) extrema, Absolute (global) extrema, Concavity and inflection points intro, Analyzing concavity and inflection points, Second derivative test, Sketching curves, Function with multi variables, Definition, Symbol, Formula, Partial differentiation, Rules, Product Rule, Quotient Rule, Power Rule, Higher Order Partial Derivatives, Chain Rule, Partial Derivative of Natural Log, Examples, Engineering Applications of Partial Derivatives

2. Course Main Objective

The objectives of this course are to provide students with a thorough understanding and good knowledge of engineering applications of derivatives, analyzing functions, functions with multi variables, partial derivatives, engineering applications of partial derivatives.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Outline the important basic definitions and the tools of engineering mathematics and its concepts and learn how to apply them in actual engineering problems.	K2
1.2	Gain a high level of skills in how to formulate engineering problems based on mathematical basics and how to solve them.	K2
2	**Skills:**	
2.1	Students will be able to apply their knowledge of engineering mathematics area and the techniques used to solve engineering applications based on mathematical formulation	S1
2.2	Students will take the responsibility to solve examples	S4
2.3	Creativity to solve new mathematical models	S4
3	**Values:**	
3.1	Students will be able to use and apply their mathematical knowledge, skills and personal, social, and/or methodological abilities, in work or study situation	V2

CLOs		Aligned PLOs
3.2	Students will be able to use new techniques to solve many mathematical problems in their life and work	V3

C. Course Content

No	List of Topics	Contact Hours
1	**Chapter (1):** **Engineering Applications of Derivatives** Meaning of the derivative in context, Straight-line motion: Rate of change, Introduction to related rates, Solving related rates problems: Approximation with local linearity, L'Hôpital's rule, Composite exponential functions.	14
2	**Chapter (2):** **Analyzing functions** Mean value theorem, extreme value theorem and critical points, Intervals on which a function is increasing or decreasing, Relative (local) extrema, Absolute (global) extrema, Concavity and inflection points intro, Analyzing concavity and inflection points, Second derivative test, Sketching curves.	14
3	**Chapter (3):** **Partial Derivatives** Function with multi variables, Definition, Symbol, Formula, Partial differentiation, Rules, Product Rule, Quotient Rule, Power Rule, Higher Order Partial Derivatives, Chain Rule, Partial Derivative of Natural Log, Engineering Applications of Partial Derivatives.	12
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	Outline the important basic definitions and the tools of engineering mathematics and its concepts and learn how to apply them in actual engineering problems.	Traditional classroom	Homework, Quizzes, and Exams
1.2	Gain a high level of skills in how to formulate engineering problems based on mathematical basics and how to solve them.	Traditional classroom	Homework, Quizzes, and Exams
2.0	**Skills**		
2.1	Students will be able to apply their knowledge of engineering mathematics area and the techniques used to solve engineering	Traditional classroom	Homework, Quizzes, and Exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	applications based on mathematical formulation		
2.2	Students will take the responsibility to solve examples	Traditional classroom	Homework, Quizzes, and Exams
2.3	Creativity to solve new mathematical models	Traditional classroom	Homework, Quizzes, and Exams
3.0	**Values**		
3.1	Students will be able to use and apply their mathematical knowledge, skills and personal, social, and/or methodological abilities, in work or study situation	Traditional classroom	Homework, Quizzes, and Exams
3.2	Students will be able to use new techniques to solve many mathematical problems in their life and work	Traditional classroom	Homework, Quizzes, and Exams

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework	All the weeks	10%
2	Quizzes	Weeks: 2,3,4,6,7	20%
3	Midterm Exam	Week: 5	20%
4	Final Exam	Week: 11	50%

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

E. Student Academic Counseling and Support

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

The student can attend to the office of the lecturer of the course to ask for any comments and to understand what he missed in the class (Office hours).

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	1. Advanced Calculus and its applications to the engineering and physical sciences, Amazigo, John C., Rubenfeld, Lester, John Wiley, 1980. 2. Advanced calculus, Kaplan, Wilfred, 1915-Addison-Wesley, c 2003. 3. Applied calculus for scientists and engineers, a journey in dialogues, Blume, Frank., Piston, Calvin Edward, Jones and Bartlett Publishers, c 2005. 4. Calculus with application with analytical geometry, Edwin J. Purcell and Dale Varberg, New York, 1984.
Essential References Materials	
Electronic Materials	
Other Learning Materials	Projector

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show
Other Resources (Specify, e.g., if specific laboratory equipment is required, list requirements or attach a list)	NA

G. Course Quality Evaluation

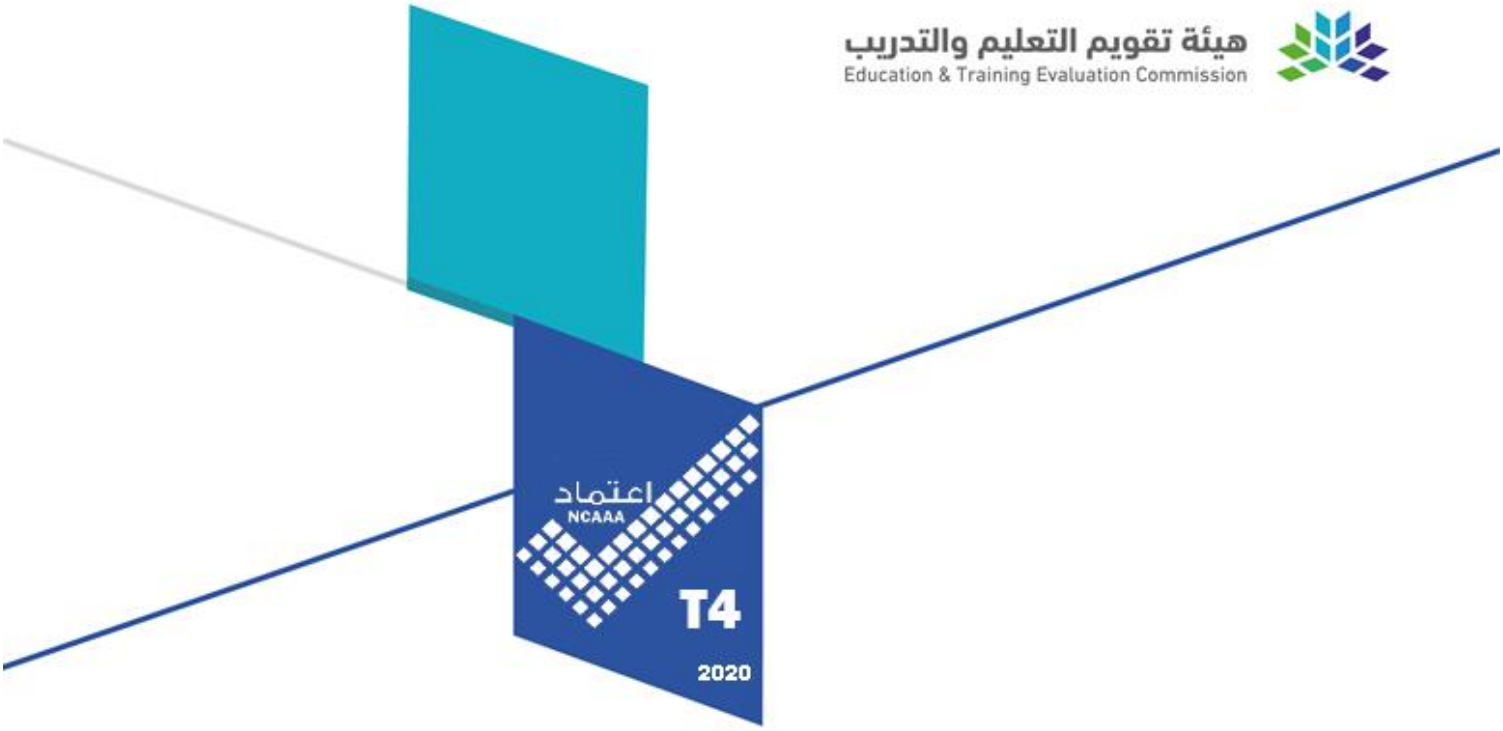
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students, Program Leaders, and Department	Direct
Teaching and assessment	Program Leaders, Department	Direct
Achievement of course learning outcomes	Program Leaders, Department	Direct

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:	**Chemistry (2) for Engineering**
Course Code:	**CHM1107**
Program:	**Bachelor of Engineering**
Department:	**Chemistry Department**
College:	**Al-Qunfudhah University College**
Institution:	**Umm Al-qura University**

Table of Contents

A. Course Identification

1. Credit hours: 3 (3+0)
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)**: Chemistry (1) for Engineering CHM1106**
5. Co-requisites for this course (if any)**:**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	**30**	**100%**
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

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

B. Course Objectives and Learning Outcomes

1. Course Description

This course introduce fundamental principles of chemistry for engineering majors.

2. Course Main Objective

The course introduces some Fundamental **principles of chemistry for engineering students including Kinetics, Electrochemistry, solids, water chemistry and cement chemistry**

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Describe the principles of solid state structures	K1
1.2	Recognize the factors affecting the reaction rate.	K1
1.3	Define the various terminologies in electrochemistry	K2
1.4	Write Nernst equation for determination of cell potential	K1

CLOs		Aligned PLOs
1.5	Familiar with the basic concepts and importance of Electrochemistry	K1
1.6	List different water sources, quality control and data handling in analytical chemistry techniques and how to select the optimum samples.	K2
1.7	List the compounds entering in the cement industry	K2
2	**Skills :**	
2.1	Discuss the construction and operation of galvanic and electrolytic electrochemical cells,	S1
2.2	Compare between the types of electrochemical cells and the electrodes.	S1
2.3	Demonstrate the factors affecting the reaction rate.	S1
3	**Values:**	
3.1	Ability to communicate results of work to classmates.	V2
3.2	Communicate effectively with his lecturer and colleagues	V1

C. Course Content

No	List of Topics	Contact Hours
1	**Kinetics of reactions:** **factors affecting the rate of reaction** **Rate laws**	6
2	**Electrochemistry**: Galvanic and electrolytic cells, -types of electrodes, -Faradays Laws	6
3	**Solids:** - basic principles of solid state structures - crystal structures properties, crystal lattice, type of crystals -cubic centered face-cubic centered body	6
4	**Water chemistry** - different water sources - Water quality standards - industrial pollutions present in water - Physico chemical parameters and significance-odor- temperature turbidity, density, solids, hardness, acidity and alkalinity	6
5	**Cement chemistry** -manufacturing methods of Portland cement and the raw materials used in these processes - cement **and** compounds entering in the cement industry	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	Describe the principles of solid state structures	• **Lectures**	**Quiz.** **Exam.**

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		• Scientific discussion Web-based study	Class discussion.
1.2	Recognize the factors affecting the reaction rate.	• Lectures • Scientific discussion Web-based study	Quiz. Exam. Class discussion.
1.3	Define the various terminologies in electrochemistry		
1.4	Write Nernst equation for determination of cell potential	• Lectures • Library visits • Web-based study	Quiz. Exam. Class discussion.
1.6	Familiar with the basic concepts and importance of Electrochemistry	• Lectures • Scientific discussion • Web-based study	Quiz. Exam. Class discussion.
1.7	different water sources, quality control and data handling in analytical chemistry techniques and how to select the optimum samples.	• Lectures • Scientific discussion • Web-based study	Quiz. Exam. Class discussion.
1.8	List the compounds entering in the cement industry	• Lectures • Scientific discussion • Web-based study	Quiz. Exam. Class discussion.
2.0	**Skills**		
2.1	Discuss the construction and operation of galvanic and electrolytic electrochemical cells,	• Lectures • Scientific discussion Web-based study	Quiz. Exam. Class discussion.
2.2	Compare between the types of electrochemical cells and the electrodes.	• Lectures • Scientific discussion Web-based study	Quiz. Exam. Class discussion.
2.3	Demonstrate the factors affecting the reaction rate.	• Lectures • Scientific discussion Web-based study	Quiz. Exam. Class discussion.
3.0	**Values**		
3.1	Demonstrate commitment to professional and academic values, and ethics in the field of chemistry	• Lectures • Scientific discussion	Class discussion. Assignment activities
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Class activities, Attendances and Duties	Throughout the Term	20%
2	Mid-Term Exam (s)	Week 6-8	30%
4	Final Exam.(2 hours exam)	End of the Term	50%
5	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 : • **We have faculty members to provide counselling and academic advice.** • **2 hours per week as office hours are available for discussion with the students.**

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	**General Chemistry, by Chang, 9th ed., 2007, MacGraw-Hill.**
Essential References Materials	- Cement Chemistry, I. Richardson, H. F. W. Taylor, ICE Publishing, 3rd edition, 2015. Industrial water pollution control, 3rd ed, W. Wesley Eckenfelder, Jr., McGraw-Hill, Inc., 2000
Electronic Materials	**Power point lectures.**
Other Learning Materials	**Course available online**

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	**Classrooms.** **Providing hall of teaching aids including computers and projector.**
Technology Resources (AV, data show, Smart Board, software, etc.)	**Room equipped with computer and projector and TV**
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	**Students**	**Indirect (Online survey at the end of the semester (Program survey, Experience survey &course evaluation) .**
Effectiveness of teaching	**Faculty members**	**Direct (classroom observation using the Teaching Observation**

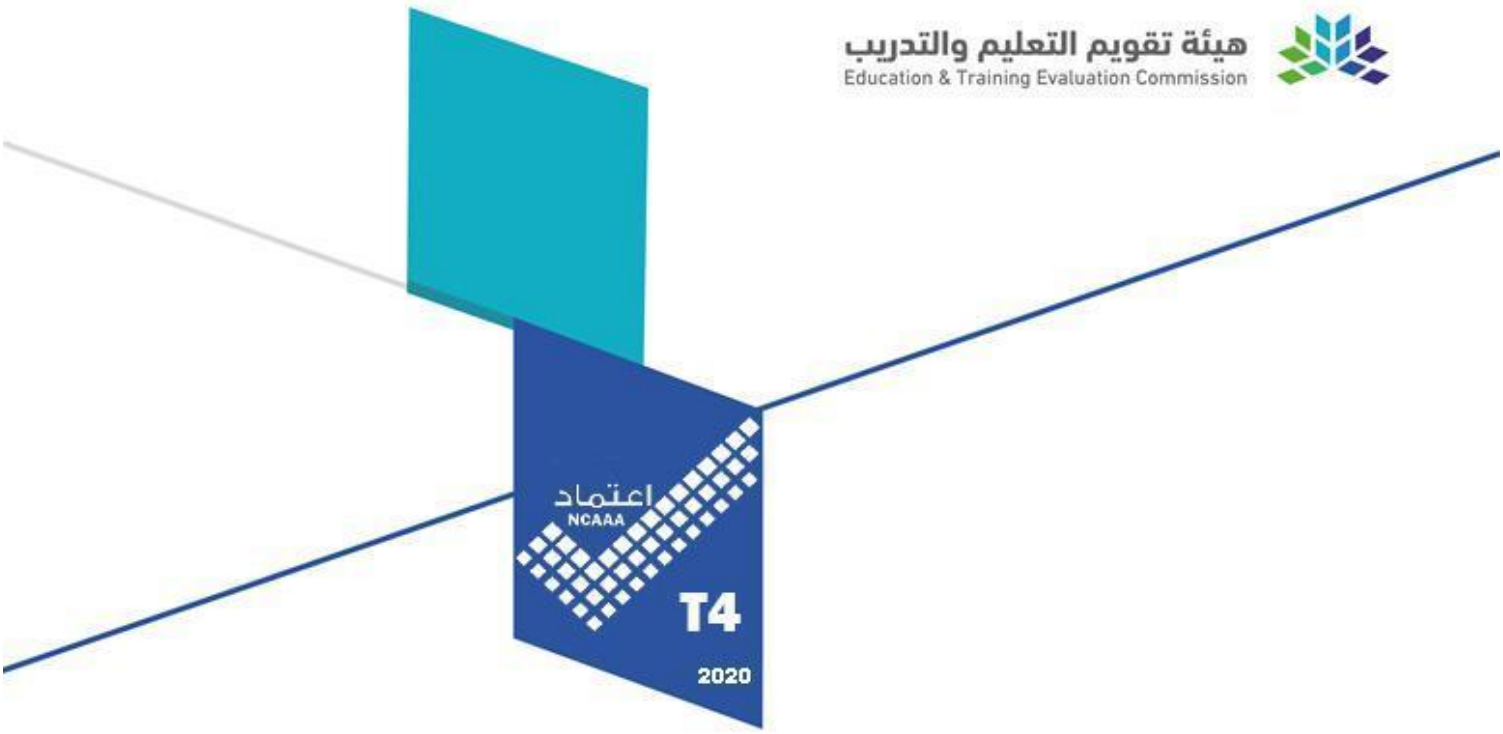
Achievement of course learning outcomes.	**Faculty members**	**Direct (60% of the students achieved ≥ 70% of the degree assigned to the course learning outcome).**
Assessment of faculty members	**Department head**	**Direct (Performance Assessment of faculty** **Indirect (feedback from faculty and students).**
Quality of learning resources	**Students**	**Direct (feedback from faculty).** **Indirect (online survey at the end of the semester.**
Effectiveness of teaching Strategies for Learning Outcomes.	**Faculty members**	**Direct (Comments of course instructors regarding evaluation of teaching strategies for learning outcomes mentioned in course 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:	**Physics (2) for Engineering**
Course Code:	**IE1102**
Program:	**Bachelor of Engineering**
Department:	**Construction Engineering** **Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 4 (3+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)**: Physics (1) for Engineering IE1101**
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**	30	50 %
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**	30 (lab)	50 %

7. Contact Hours (based on academic semester)

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

B. Course Objectives and Learning Outcomes

1. Course Description

After completing the first physics for engineering course (prior to this course), students will study the collisions, circular motion, rotation, equilibrium and fluids in this course.

2. Course Main Objective

The course is design to provide students with some basic and essential concepts in general physics. The main subjects that this course covers are listed below.
In addition to these items, the students should gain practical skills through conducting experiments in the laboratory.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and understanding**	
1.1	Explain the concepts of rotation and equilibrium	K1

CLOs		Aligned PLOs
1.2	Define center of mass and elasticity	K2
1.3		
2	**Skills:**	
2.1	Apply laws of energy conservation in rotation	S1
2.2	Relate torque and momentum to equilibrium	S2
2.3	Solve collision problems	S2
3	**Values:**	
3.1	Work effectively responsibly in teamwork	V2
3.2		

C. Course Content

No	List of Topics	Contact Hours
1	Center of Mass and Linear Momentum The Center of Mass Linear Momentum Collision and Impulse Conservation of Linear Momentum Momentum and Kinetic Energy in Collisions Inelastic Collisions in One Dimension Elastic Collisions in One Dimension	6
2	Rotation Rotational Variables Rotation with Constant Angular Acceleration Relating the Linear and Angular Variables Kinetic Energy of Rotation Torque Work and Rotational Kinetic Energy	6
3	Rolling, Torque, and Angular Momentum Rolling as Translation and Rotation Combined The Kinetic Energy of Rolling The Forces of Rolling Torque Angular Momentum Conservation of Angular Momentum	6
4	Equilibrium and Elasticity Equilibrium The Requirements of Equilibrium The Center of Gravity Some Examples of Static Equilibrium Elasticity Indeterminate Structures Elasticity	6
5	Fluids Definition of a Fluid Density and Pressure Fluids at Rest Measuring Pressure Pascal's Principle	6

	Archimedes' Principle The Equation of Continuity Bernoulli's Equation	
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	Explain the concepts of rotation and equilibrium	1. Demonstrating the basic principles through lectures. 2. Discussing phenomena with illustrating pictures and diagrams. 3. Lecturing method: ● Board, Power point. ● Discussions ● Start each chapter by general idea and the benefit of it. 4. Perform some experiments in the Laboratory	1. Solve some examples during the lecture. 2. Discussions during the lectures 3. Exams: a) Quizzes. b) Midterm exams. c) Final exam. d) Practical exams.
1.2	Define center of mass and elasticity		
1.3			
2.0	**Skills**		
2.1	Apply laws of energy conservation in rotation	1. Solve some problems in class. 2. Explain some proofs during lectures. 3. Encourage students to participate in solving problems.	1. Solve some examples during the lecture. 2. Discussions during the lectures 3. Exams: a) Quizzes. b) Midterm exams. c) Final exam. d) Practical exams.
2.2	Relate torque and momentum to equilibrium		
2.3	Solve collision problems		
3.0	**Values**		
3.1	Work effectively responsibly in teamwork	● Organize the students as a small group in the lab to conduct experiments and prepare reports.	● Evaluate the scientific reports. ● Discussing the reports with each teamwork. ● Evaluate the reports of each student.
3.2			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm exam	10th	20 %
2	Homework & quizzes	All weeks	10 %
3	Lab reports and final exam	End of the semester	20 %
4	Final written exam	End of the semester	50%

***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: Each student has the chance to meet and discuss with his instructor in class and during office hours. Additionally, students can contact the coordinator of the course should they have any other issue in the course.)

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Halliday & Resnick, Jearl Walker, "Fundamentals of Physics" 10th Edition (2018)
Essential References Materials	
Electronic Materials	• Electronic materials of the required textbook and its PowerPoints slides • Umm Al-Qura LMS related contents
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	● Classroom ● Laboratory ● Library
Technology Resources (AV, data show, Smart Board, software, etc.)	● Data show ● Black Bord
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 Strategies	Students	Questionnaire
Effectiveness of student assessment	Instructors of the course	Peer review of exam marking
Extent of achievement of course learning outcomes	Instructor	Course report
Quality of learning resources	Instructor	Course 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:	English Language 3
Course Code:	ELCE1203
Program:	Bachelor in EMI Colleges (Medical Colleges/ College of Engineering/ College of Computer Sciences/ College of Business Administration/ Applied Sciences)
Department:	English Language Centre
College:	English Language Centre
Institution:	Umm Al Qura University

Table of Contents

A. Course Identification

1. Credit hours: 4 hours
2. Course type **a.** University ☐ College ■ Department ☐ Others ☐ **b.** Required ■ Elective ☐
3. Level/year at which this course is offered: **1st Year**
4. Pre-requisites for this course (if any)**:** EMI Colleges – English Language 1 & EMI Colleges – English Language 2
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**	12 hours per week	75%
2	**Blended**	16 hours per week	100%
3	**E-learning**	4 hours per week	25%
4	**Distance learning**	0	0
5	**Other**	0	0

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	(16 hours) X (10 weeks)
2	**Laboratory/Studio**	0
3	**Tutorial**	0
4	**Others** (specify)	0
	Total	160 hours

B. Course Objectives and Learning Outcomes

1. Course Description

English Language 3 is a single-level, English for General Purposes (EGP) course. All students who are admitted to Bachelor in the EMI Colleges (Medical Colleges/ College of Engineering/ College of Computer Sciences/ College of Business Administration/ Applied Sciences) are required to take this course in the third semester of the first year of their program. The course is offered in 10 weeks with a 16-hour-per week teaching plan covering the four language skills. It intends to develop students' knowledge and ability of English language in all major skills which include reading, writing, listening, and speaking, as well as in sub-skills including grammar, vocabulary, and pronunciation.

2. Course Main Objective

English Language 3 is one level taking students from (CEFR) B1 to B1+.

3. Course Learning Outcomes

CLOs	
1.0	**Knowledge**
1.1	**By the end of the course, the students are expected to be able to:** exhibit adequate comprehension of simple and complex spoken materials at the B1+ level through recognizing key words, stress, intonation, pauses, and linkers in fast speech. - understand the main ideas of conversations, presentations, radio programmes, news reports, podcasts, discussions and interviews - identify main ideas and supporting ideas - develop listening for detail, examples and reasons - listen for transition words in spoken contexts to help follow the speech or conversation - recognize how stress can emphasize a new point is being made - listen to the tone to distinguish attitude
1.2	demonstrate an understanding of grammar at the B1+ level, incorporating tenses, part of speech, modal auxiliaries, and sentence structure. - be aware of the difference between stative and dynamic verbs, and how rules may change in informal speech, eg "*I'm loving it*" - modify comparisons, *"by far the best", "a little busier"* - use modals for speculation, *"it may be…" "it could be"* - use subject and object relative clauses correctly - use the present unreal conditional to discuss hypothetical situations, e.g. "*if I were prime minister, I would…"* - use modals to discuss past probability - understand the difference between the use of gerunds and infinitives after *forget, remember, stop*
1.3	recognize and use lexical items such as words, collocations, and derivatives, both in general and academic contexts at the B1+ level. - develop vocabulary of the topics covered in order to be able to talk about them with others - be aware of, and build word families - be aware of the meaning of ALL CAPS in text messages - use reporting words to convey meaning, e.g. *explained, persuaded* - use various expressions (*not supposed to, allowed to*) to express prohibition, permission or obligation - understand the use of the causative verbs, *help, let, make* - recognize substitution and referencing in texts - be aware of importance of linking words in academic texts, and develop the range and use - reference another argument in your writing
2.0	**Skills**
2.1 2.1.1	**Cognitive Skills:** demonstrate comprehension of simple and complex written texts at the B1+ level through applying the skills of scanning, skimming, guessing from context and through recognizing linking words. - infer attitude and meaning - identify arguments and support - identify main points of paragraphs, and make notes on the details to facilitate summarizing or paraphrasing later - note the use of adjectives and adverbs to discern attitude in text - recall key information - develop different note-taking skills, such as the use of timelines for chronologically ordered texts
2.1.2	compose coherent/cohesive texts at the B1+ level for various general and academic purposes through applying the skills of brainstorming ideas, composing an outline, and editing/revision. - write a variety of texts of several paragraphs - write a letter of apology - write formal and informal emails - produce and conduct a survey, and write a description of the data results - write complex sentences, using *after, while, until* - reread and proofread to improve a finished text

CLOs	
2.1.3	communicate effectively in spoken language at the B1+ level in tasks such as oral presentations, group discussion, expressing opinions, and short talks. - discuss familiar and unfamiliar topics - take part in an interview, role plays, debates and discussions - give short presentations - use signals to get back on track, eg *anyway, where was I?* - discuss hypothetical situations, eg life without a phone - talk about wishes and hopes
2.2	**Critical Thinking** - develop well-reasoned, persuasive arguments - analyze sources of information when conducting research - analyze and interpret the results of a survey - evaluate things from a different perspective - reflect on own assumptions, beliefs and values - evaluate and rank items according to usefulness or importance - evaluate arguments (evidence of support or relevance) - infer meaning from written or spoken text - appraise a text according to criteria, and provide feedback - appraise arguments, identify inconsistencies and errors - understand the links between ideas - organize ideas in a logical, systematic way - evaluate problems and propose solutions - reflect on knowledge gained
2.3	**Communication, Information Technology, Numerical** - research, discuss and present information - describe and give personal opinions on a variety of topics - express general beliefs - reach a compromise to solve a problem
2.4	**Psychomotor** - give confident, persuasive presentations - take part in an interview, role plays, debates and discussions - place stress correctly in long words
3.0	**Values**
3.1	develop life-long learning strategies so that students can take full responsibility of their English language skill development.
3.2	develop academic integrity.
3.3	collaborate in knowledge building and co-operate with peers: - hold short discussions with a partner to activate knowledge before listening tasks - hold short discussions with a partner to synthesize knowledge post-listening - work with others to brainstorm, create a convincing argument - work with others to rank items in order of importance - give feedback to peers on writing, presentations, etc - ask for opinions and check information
3.4	take the responsibilities to meet the requirements of the jobs market: - recognize good employee qualities - take part in a job interview role play - appraise the interview performance of others, and provide written feedback - be able to justify your decisions - be aware of how to manage stress in the workplace - develop note-taking skills - maintain a calm rather formal tone when something goes wrong in business - repair a customer relationship - write a public apology - use key formal phrases in business correspondence, such as "I look forward to hearing from you"

C. Course Content

No	List of Topics	Contact Hours
Evolve 4 Special Edition: Level 3 (B1+)		
1	Unit 1: And We're Off Personal achievements, right qualities for the job, introductions, responding to an article on job interviews, sport science: presentation examples, a job interview Video: Fit for the job	
2	Unit 2: The Future of Food Trends, food preparation, offers: making, accepting and declining, a food survey, traditional dishes, restaurant rescue Video: Green cities	
3	Unit 3: What's It Worth? Time and money, value for money, apologizing, product reviews, work-life balance, responding to negative reviews Video: Save now, pay later	
4	Unit 4: Going Local Merchandising, viral stories, discussing opinions, brands, product and business reviews, design an ad Video: Saving the world, one hour at a time	
5	Unit 5: True Stories Stories, changing plans, reacting to bad news, a written apology, language learning, a chance meeting Video: Walking and talking	
6	Unit 6: Community Action Charities and volunteers, acts of kindness, help: offering, accepting and refusing, a community project, responding to offers and requests, an urban art project Video: Can do!	
7	Unit 7: Can We Talk? Text messaging apps, written vs spoken language, retelling a story, formal vs informal communication, critical literacy, an online survey Video: Mobile communication in Africa	
8	Unit 8: Lifestyles Work lifestyles, wishes and regrets, considering options, comment on a podcast, post practical advice, digital detox Video: Start-up life	
9	Unit 9: Yes, you can Rules and regulations, discussing rules, tipping, a letter of complaint, a case study: urban regeneration, making improvements Video: Opening doors for everyone	
10	Unit 10: What if ….? Accidental discoveries, alternatives and possibilities, engaging the listener, good and bad inventions, turning points, the greatest invention? Video: Game of bones	
11	Unit 11: Contrasts College life, scientific facts, discussing alternatives, commenting on new technology, a healthy diet, mediation Video: The future of driving	

12	Unit 12: Looking Back The story behind a photo, childhood memories, sharing past experiences, zoos: the pros and cons, national traditions, a 'national moment' Video: the good old days?	
Total		

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**		
1.1	**By the end of the course, the students are expected to be able to:** exhibit adequate comprehension of simple and complex spoken materials at the B1+ level through recognizing key words, stress, intonation, pauses, and linkers in fast speech. - understand the main ideas of conversations, presentations, radio programmes, news reports, podcasts, discussions and interviews - identify main ideas and supporting ideas - develop listening for detail, examples and reasons - listen for transition words in spoken contexts to help follow the speech or conversation - recognize how stress can emphasize a new point is being made - listen to the tone to distinguish attitude	Listening exercises	Listening mid-term exam Listening final exam
1.2	demonstrate an understanding of grammar at the B1+ level, incorporating tenses, part of speech, modal auxiliaries, and sentence structure. - be aware of the difference between stative and dynamic verbs, and how rules may change in informal speech, eg "*I'm loving it*" - modify comparisons, *"by far the best", "a little busier"* - use modals for speculation, *"it may be…" "it could be"* - use subject and object relative clauses correctly - use the present unreal conditional to discuss hypothetical situations, e.g. "*if I were prime minister, I would…"* - use modals to discuss past probability - understand the difference between the use of gerunds and infinitives after *forget, remember, stop*	Grammar exercises	Midterm Exam Continuous writing assessment Continuous speaking assessment Quizzes Writing Final Exam Final Exam

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.3	- recognize and use lexical items such as words, collocations, and derivatives, both in general and academic contexts at the B1+ level. - develop vocabulary of the topics covered in order to be able to talk about them with others - be aware of, and build word families - be aware of the meaning of ALL CAPS in text messages - use reporting words to convey meaning, e.g. *explained, persuaded* - use various expressions (*not supposed to, allowed to*) to express prohibition, permission or obligation - understand the use of the causative verbs, *help, let, make* - recognize substitution and referencing in texts - be aware of importance of linking words in academic texts, and develop the range and use - reference another argument in your writing	Writing, reading, and vocabulary exercises	Midterm Exam Continuous writing assessment Continuous speaking assessment Quizzes Writing Final Exam Final Exam
2.0	**Skills**		
2.1 2.1.1	**Cognitive Skills:** demonstrate comprehension of simple and complex written texts at the B1+ level through applying the skills of scanning, skimming, guessing from context and through recognizing linking words. - infer attitude and meaning - identify arguments and support - identify main points of paragraphs, and make notes on the details to facilitate summarizing or paraphrasing later - note the use of adjectives and adverbs to discern attitude in text - recall key information - develop different note-taking skills, such as the use of timelines for chronologically ordered texts	Reading comprehension exercises	Classroom discussion Midterm exam Final exam
2.1.2	compose coherent/cohesive texts at the B1+ level for various general and academic purposes through applying the skills of brainstorming ideas, composing an outline, and editing/revision. - write a variety of texts of several paragraphs - write a letter of apology - write formal and informal emails - produce and conduct a survey, and write a description of the data results - write complex sentences, using *after, while, until* - reread and proofread to improve a finished text	Writing exercises	Continuous writing assessment Writing Final Exam

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.1.3	communicate effectively in spoken language at the B1+ level in tasks such as oral presentations, group discussion, expressing opinions, and short talks. - discuss familiar and unfamiliar topics - take part in an interview, role plays, debates and discussions - give short presentations - use signals to get back on track, eg *anyway, where was I?* - discuss hypothetical situations, eg life without a phone - talk about wishes and hopes	Speaking exercises Discussion Presentation, eg an advertisement, a tourist campaign, a YouTube video	Continuous speaking assessment
2.2	**Critical Thinking** develop well-reasoned, persuasive arguments - analyze sources of information when conducting research - analyze and interpret the results of a survey - evaluate things from a different perspective - reflect on own assumptions, beliefs and values - evaluate and rank items according to usefulness or importance - evaluate arguments (evidence of support or relevance) - infer meaning from written or spoken text - appraise a text according to criteria, and provide feedback - appraise arguments, identify inconsistencies and errors - understand the links between ideas - organize ideas in a logical, systematic way - evaluate problems and propose solutions - reflect on knowledge gained		
2.3	**Communication, Information Technology, Numerical** - research, discuss and present information - describe and give personal opinions on a variety of topics - express general beliefs reach a compromise to solve a problem	Demonstrations Active self-learning Pair work Group work e-learning Online material (Encourage students to make their presentations to small groups in the class)	Monitoring students' progress Evaluating the individual contribution Evaluating the teamwork Evaluating the final product (Evaluation of presentations may be by peers)

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.4	**Psychomotor** - give confident, persuasive presentations - take part in an interview, role plays, debates and discussions - place stress correctly in long words	Active self-learning Pair work Group work	Monitoring students' progress
3.0	**Values**		
3.1	develop life-long learning strategies so that students can take full responsibility of their English language skill development.	Cambridge application Cambridge LMS	Built-in immediate feedback
3.2	develop academic integrity.	Writing exercises	Continuous writing assessment Continuous speaking assessment Writing Final Exam
3.3	collaborate in knowledge building and co-operate with peers: - hold short discussions with a partner to activate knowledge before listening tasks - hold short discussions with a partner to synthesize knowledge post-listening - work with others to brainstorm, create a convincing argument - give feedback to peers on writing, presentations, etc - ask for opinions and check information	Peer work Group work	Evaluating the individual contribution Evaluating the teamwork Evaluating the final product
3.4	take the responsibilities to meet the requirements of the jobs market: - write a personal statement - write a resumé - be aware of the importance of good time management - be aware of the importance of turn-taking in debates or discussions - be aware of learning from failure	Individual, peer and group work inside classrooms. Extramural language work to master the competencies at this language level.	Monitoring students' progress

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	The 5th	30
2	Listening Mid-term Exam	The 6th	5
3	Continuous writing assessment	from the 1st to the 10th	5
4	Continuous speaking assessment	from the 1st to the 10th	5
5	3 Quizzes (average)	3rd/ 6th/ 9th	5
6	Online Practice	from the 1st to the 10th	5
6	Listening Final Exam	The 10th	5
7	Writing Final Exam	The 11th	5
8	Final Exam	The 11th	35
	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:

Course instructors are ready to answer all students' queries during their lectures or during office hours and they can be reached by personal meeting, e-mails, WhatsApp or telegram.

All students have the e-mail and office hours of the course instructor through student handouts distributed to the student at the beginning of each semester.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Goldstein, B., Jones, C., Hendra, L., Tilbury, A. (2019). Evolve 4 Special Edition: Student's Book with Practice Extra. Cambridge University Press. UK: Cambridge University Press.
Essential References Materials	Multimedia
Electronic Materials	Cambridge LMS
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classrooms
Technology Resources (AV, data show, Smart Board, software, etc.)	data show, Smart Board, and Cambridge application
Other Resources	Blackboard

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

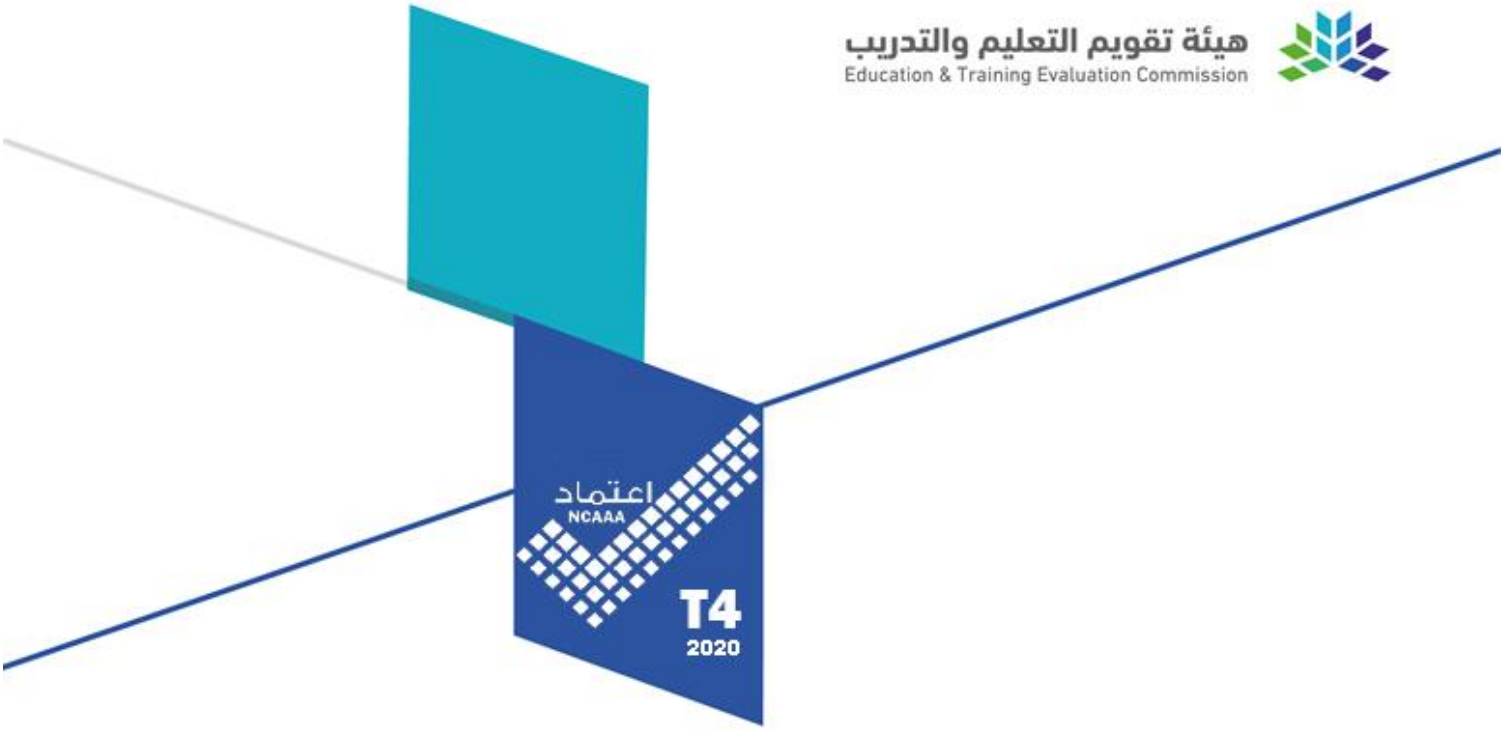
G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources.	Faculty members	Direct: Course reports
Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources.	University students	Direct: Evaluation surveys

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	Curriculum and Accreditation Committees
Reference No.	
Date	Dec 28.2021



توصيف المقرر الدراسي

اسم المقرر:	**توصيف مقرر الثقافة الإسلامية (١)**
رمز المقرر:	ICC1201
البرنامج:	**البكالوريوس**
القسم العلمي:	**الدعوة والثقافة الإسلامية**
الكلية:	**الدعوة وأصول الدين**
المؤسسة:	**جامعة أم القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة: 32
٢. نوع المقرر أ. متطلب جامعة ■ متطلب كلية ☐ متطلب قسم ☐ أخرى ☐ ب. إجباري ■ اختياري ☐
٣. السنة / المستوى الذي يقدم فيه المقرر **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**	**لا ينطبق**	**لا ينطبق**
2	**لتعليم المدمج**	**لا ينطبق**	**لا ينطبق**
3	**التعليم الإلكتروني**	**لا ينطبق**	**لا ينطبق**
4	**التعليم عن بعد**	٢٠	%٩٠,٩٠
5	**أخرى: (الاختبارات النصفية والنهائية)**	٢ساعتان	%٩,٠٩

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات: (بواقع ساعتين في الأسبوع لمدة ١٠ أسبوعا)	٢٠
٢	معمل أو استوديو	لا ينطبق
٣	دروس إضافية	لا ينطبق
٤	أخرى (تذكر): (الاختبارات النصفية والنهائية)	٢ ساعتان
	الإجمالي	٢٢

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

يتناول المقرر التعريف بمحاسن الإسلام، ووسطيته، وسمو مبادئه، إضافة إلى بيان مفهوم الإيمان، وأركانه، كما سيتناول مقاصد العبادات في الإسلام، مع دراسة لنماذج متنوعة من هذه العبادات، وأثرها على حياة الإنسان.

٢. الهدف الرئيس للمقرر:

- ترسيخ العقيدة الإسلامية الصحيحة.
- بيان محاسن الإسلام ووسطيته، وسمو مبادئه.
- توضيح مقاصد العبادة في الإسلام

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	يعرف على الثقافة الإسلامية ومصادرها وخصائصها	
1.2	يوضح آداب وسمات طالب العلم	
1.3	يشرح مفهوم العقيدة وأهميتها وأصولها وآثارها على الفرد والمجتمع	
1.4	يستعرض مفهوم العبادة ومكانتها وشروطها وخصائصها وآثارها	

مخرجات التعلم للمقرر		رمز مخرج التعلم المرتبط للبرنامج
2	المهارات	
2.1	يقارن بين الثقافة الإسلامية والثقافة الغربية من حيث المفهوم والمصادر والأهداف	
2.2	يستنبط أدلة وثمار أركان الإيمان الستة	
2.3	يمارس العقيدة والعبادات بشكل صحيح بعيدا عن الغلو والتطرف وبالوسطية التي جاء بها الإسلام وأكدت عليها رؤية المملكة ٢٠٣٠	
2.4	ينقد أهم النظريات الأخلاقية الغربية	
3	القيم	
3.1	يتحلى بآداب وسمات طالب العام الناجح	
3.2	يكون علاقات داخل الجامعة وخارجها قائمة على الاستقلالية وتحمل المسؤولية	
3.3	يتمثل القيم والأخلاق الإسلامية الحميدة	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	**مدخل إلى الثقافة الإسلامية (مفهومها، أهميتها، خصائصها، علاقتها بالعلوم الأخرى) :** سيتعلم الطالب في هذه المفردة مفهوم الثقافة الإسلامية وأهميتها، كما سيدرس خصائص الثقافة الإسلامية، والعلاقة بين الثقافة الإسلامية وارتباطها بالعلوم الشرعية الأخرى.	٢
٢	**مفهوم الدين رؤية الإسلام للوجود والإنسان:** يدرس الطالب في هذه المفردة مفهوم الدين، وتعريفاته، وأهميته، وحاجة الإنسان إليه من حيث فطريته، وتصحيح سلوكه. في هذه المفردة سيدرس الطالب نظرة الإسلام للخالق سبحانه وتعالى، وللكون، والمخلوقات، وكيف أن الإسلام كرم الإنسان وميزه على سائر المخلوقات	٢
٣	**وسطية الإسلام ومحاسنه:** في هذه المفردة سيدرس الطالب أصول محاسن، وكمال هذا الدين العظيم، كما سيدرس مظاهر وسطية الإسلام في عقائده وشرائعه وأخلاقه.	٢
٤	**مفهوم الإيمان:** تتطرق هذه المفردة إلى بيان الحقيقة اللغوية والشرعية للإيمان، وأهمية الايمان بالغيب، والعلاقة بين الظاهر والباطن، وزيادة الإيمان ونقصانه. في **الإيمان بالله (الربوبية، الأسماء والصفات):** هذه المفردة سيدرس الطالب مفهوم الايمان بالله وبوجوده، وبربوبيته، وأسمائه وصفاته، وأثر الإيمان بها في حياة المسلم **الإيمان بالله: (الألوهية):** يدرس الطالب في هذه المفردة مفهوم الايمان بالألوهية، وأثر ذلك في حياة المسلم.	٢
٥	**الإيمان بالملائكة والكتب:** هذه المفردة تعنى بتعريف الايمان بالملائكة والكتب وأهميته وآثاره. كما سيدرس صفات الملائكة ووظائفهم، والكتب الإلهية الواجب الإيمان بها، بالإضافة إلى موقف المسلم من الكتب السماوية السابقة والقرآن الكريم.	٢
٦	**الإيمان بالرسل:** في هذه المفردة سيدرس الطالب معنى الإيمان بالرسل وأهميته وآثاره، كما سيدرس وظائف الرسل عليهم السلام وصفاتهم والمقصد من إرسالهم، بالإضافة إلى أدلة صدق النبي صلى الله عليه وسلم وخصائصه وحقوقه	٢
٧	**الإيمان باليوم الآخر:** هذه المفردة يدرس الطالب فيها معنى الإيمان باليوم الآخر وأهميته وآثاره، كما سيدرس الحقائق التي يشملها الإيمان باليوم الآخر كأشراط الساعة وما يكون بعد الموت من حساب وجزاء، بالإضافة إلى أدلة البعث وحقيقته، ومفهوم الشفاعة.	٢

٨	**الإيمان بالقدر:** في هذه المفردة سيدرس الطالب مفهوم القضاء والقدر وآثار الإيمان به، كما سيدرس مراتب الإيمان بالقدر والمراد بها.	٢
٩	**العبادة:** تعنى هذه المفردة ببيان مفهوم العبادة في الإسلام وخصائصها وشروطها ومقاصدها، كما سيدرس أهمية عبادة الله وآثارها على حياة المسلم.	٢
١٠	**أركان الإسلام وآثارها:** سيكون التركيز في هذه المفردة على دراسة الآثار الإيمانية والتربوية للصلاة والزكاة والصوم والحج في حياة المسلم.	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	يعرف الثقافة الإسلامية ويعدد مصادرها وخصائها	المحاضرات والمناقشات	الاختبارات التحريرية والشفوية
1.2	يتمثل بآداب وسمات طالب العلم	التعلم التعاوني	الملاحظة المستمرة والتقييم الجماعي
1.3	يبين مفهوم العقيدة وأهميتها وأصولها وآثارها على الفرد والمجتمع	المحاضرات والمناقشات	الاختبارات التحريرية والشفوية
1.4	يعرض مفهوم العبادة ومكانتها وشروطها وخصائصها وآثارها	تعلم الأقران	الاختبارات التحريرية والشفوية، التقويم المتسمر
2.0	**المهارات**		
2.1	يقارن برين الثقافة الإسلامية والثقافة الغربية من حيث المفهوم والمصادر والأهداف	العصف الذهني	الملاحظة والتقييم المستمر
2.2	يستنبط أدلة وثمار أركان الإيمان الستة	الطريقة الاستقرائية التكليف بأبحاث وواجبات	تقييم البحوث والواجبات
2.3	يطبق العقيدة والعبادات بشكل صحيح بعيدا عن الغلو والتطرف وفق رؤية المملكة ٢٠٣٠	التعليم التعاوني	الملاحظة المستمرة والتقييم الجماعي
2.4	ينقد أهم النظريات الأخلاقية الغربية	التعلم الذاتي	
3.0	**القيم**		
3.1	يتحلى بآداب وسمات طالب العام الناجح	التعلم التعاوني	الملاحظة المباشرة وتقويم الأداء
3.2	يكون عالقات داخل الجامعة وخارجها قائمة على الاستقلالية وتحمل المسؤولية	التعلم التعاوني	الملاحظة المستمرة والتقييم الجماعي
3.3	يستخدم التقنية الحديثة في البحث عن بعض مفردات المنهج	تكليف الطالب بأبحاث وواجبات يحتاج لجمع مفرداتها إلى وسائل التقنية الحديثة	تقييم الأبحاث

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	الاختبار التحريري والشفوي	الأسبوعان الثامن والرابع عشر	٦٠%
٢	التقويم المستمر	كل أسابيع الدراسة	١٥%

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
٣	عرض البحوث والمناقشة	الحادي عشر والثاني عشر	١٥%
٤	الملاحظة وتقويم الأداء	كل أسابيع الدراسة	١٠%

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- **تعريف الطالب بالمقرر**
- **متابعة بعض الحالات الفردية التي تحتاج إلى اهتمام خاص.**
- **توجيه الطالب الى كيفية الإفادة من التقنيات الحديثة.**
- **الساعات المكتبية.**
- **ربط جميع الطلاب بمرشدين أكاديميين لمساعدتهم على فهم متطلبات البرنامج وعمليات التسجيل.**
- **نشر جميع معلومات الاتصال الخاصة بعضو هيئة التدريس على الصفحة الرئيسية للمقرر الدراسي على البلاك بورد**

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	١- الدر المختصر في محاسن الدين الإسلامي للشيخ عبد الرحمن بن ناصر السعدي. + شرح أصول الإيمان للشيخ محمد العثيمين
المراجع المساندة	٢- تفصيل النشأتين وتحصيل السعادتين للراغب الأصفهاني. ٣- شفاء العليل في مسائل القضاء والقدر والحكمة والتعليل لابن قيم الجوزية.
المصادر الإلكترونية	المكتبة الرقمية السعودية
أخرى	

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعة دراسية مجهزة افتراضية مكتبة اليكترونية
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	أجهزة حاسوب مرتبطة بالنت قاعات افتراضية
تجهيزات أخرى (تبعاً لطبيعة التخصص)	لا يوجد

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	أعضاء هيئة التدريس، الطالب، لجنة الجودة، إدارة القسم	غير مباشر (الاستبانات)
فاعلية طرق تقييم الطالب	المراجع النظير	مراجعة عينات عشوائية من أوراق إجابات الطلاب
مدى تحصيل مخرجات التعلم	قيادات البرنامج	تقييم مباشر

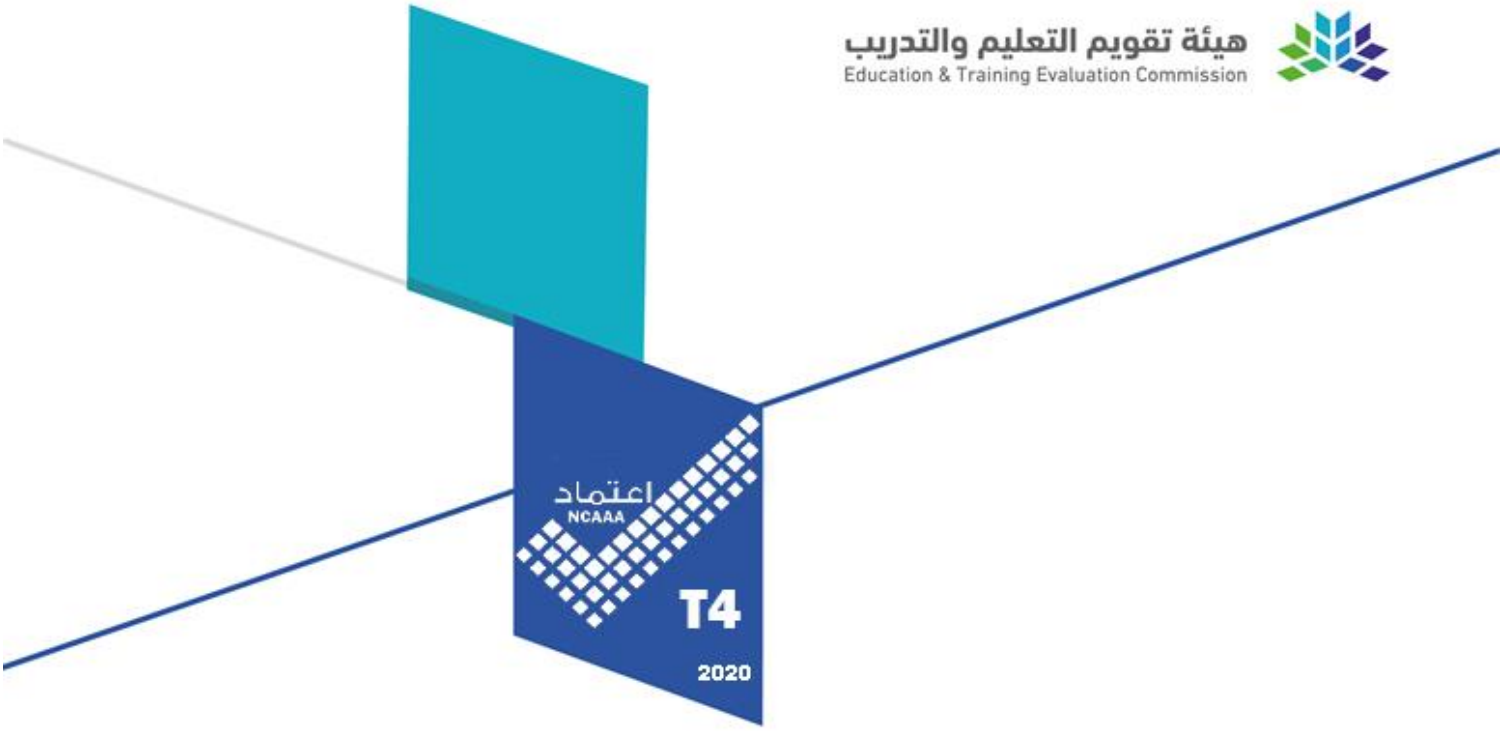
مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلاب، مدى تحصيل مخرجات التعلم للمقرر، مصادر التعلم ... إلخ)

المقيمون (الطلبة، أعضاء هيئة التدريس، قيادات البرنامج، المراجع النظير، أخرى (يتم تحديدها)
طرق التقييم (مباشر وغير مباشر)

ح. اعتماد التوصيف

جهة الاعتماد	مجلس القسم
رقم الجلسة	
تاريخ الجلسة	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	**Calculus (3) for Engineering**
Course Code:	**COE1103**
Program:	**Bachelor of Engineering**
Department:	**Construction Engineering** **Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

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: Level 3 / Year 1
4. Pre-requisites for this course (if any)**: Calculus 2 for Engineering COE1102**
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**	✓	100
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The course is providing the student with good knowledge and understanding of the basic concepts of Accumulations of change introduction, Approximation with Riemann sums, Summation notation review, Riemann sums in summation notation, Defining integrals with Riemann sums: Fundamental theorem of integrals calculus and accumulation functions, Interpreting the behaviour of accumulation functions: Properties of definite integrals, Fundamental theorem of calculus and definite integrals, Reverse power rule, Indefinite of common functions, Definite integral of common functions, Integrating with substitution, Integrating using long division and completing the square, Integrating using trigonometric identities, Integrating by parts, Some other types of integrations, and Engineering Applications of Integration.

2. Course Main Objective

The objectives of this course are to provide students with a thorough understanding and good knowledge of integral calculus, definite integral calculus, methods of integration, and engineering applications of integrations.

3. Course Learning Outcomes

	CLOs	Aligned-PLOs
1	**Knowledge and Understanding**	
1.1	Outline the important basic definitions and the tools of engineering mathematics and its concepts and learn how to apply them in actual engineering problems.	K2
1.2	Gain a high level of skills in how to formulate engineering problems based on mathematical basics and how to solve them.	K2
2	**Skills:**	
2.1	Students will be able to apply their knowledge of engineering mathematics area and the techniques used to solve engineering applications based on mathematical formulation	S1
2.2	Students will take the responsibility to solve examples	S4
2.3	Creativity to solve new mathematical models	S4
3	**Values:**	
3.1	Students will be able to use and apply their mathematical knowledge, skills and personal, social, and/or methodological abilities, in work or study situation	V2

CLOs		Aligned PLOs
3.2	Students will be able to use new techniques to solve many mathematical problems in their life and work	V3

C. Course Content

No	List of Topics	Contact Hours
1	**Chapter (1):** **Integrals** Accumulations of change introduction, Approximation with Riemann sums, Summation notation review, Riemann sums in summation notation, Defining integrals with Riemann sums: Fundamental theorem of integrals calculus and accumulation functions, Interpreting the behaviour of accumulation functions: Properties of definite integrals, Fundamental theorem of calculus and definite integrals, Reverse power rule, Indefinite of common functions.	16
2	**Chapter (2):** **Methods of Integrations** Definite integral of common functions, Integrating with substitution, Integrating using long division and completing the square, Integrating using trigonometric identities, Integrating by parts, Some other types of integrations.	12
3	**Chapter (3):** **Engineering Applications of Integration** The average value of a function, Straight-line motion, Rate of change, Area, the vertical area between curves, Area, the horizontal area between curves, Area, curves that intersect at more than two points, Volume, squares and rectangles cross-sections, Volume, triangles and semicircles cross-sections, Volume, disc method (revolving around x- and y-axes), Volume, disc method (revolving around other axes), Volume, washer method (revolving around x- and y-axes).	12
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	Outline the important basic definitions and the tools of engineering mathematics and its concepts and learn how to apply them in actual engineering problems.	Traditional classroom	Homework, Quizzes, and Exams
1.2	Gain a high level of skills in how to formulate engineering problems based on mathematical basics and how to solve them.	Traditional classroom	Homework, Quizzes, and Exams
2.0	**Skills**		
2.1	Students will be able to apply their knowledge of engineering mathematics area and the techniques used to solve engineering applications based on mathematical formulation	Traditional classroom	Homework, Quizzes, and Exams
2.2	Students will take the responsibility to solve examples	Traditional classroom	Homework, Quizzes, and Exams
2.3	Creativity to solve new mathematical models	Traditional classroom	Homework, Quizzes, and Exams
3.0	**Values**		
3.1	Students will be able to use and apply their mathematical knowledge, skills and personal, social, and/or methodological abilities, in work or study situation	Traditional classroom	Homework, Quizzes, and Exams
3.2	Students will be able to use new techniques to solve many mathematical problems in their life and work	Traditional classroom	Homework, Quizzes, and Exams

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework	All the weeks	10%
2	Quizzes	Weeks: 2,3,4,6,7	20%
3	Midterm Exam	Week: 5	20%
4	Final Exam	Week: 11	50%

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

E. Student Academic Counseling and Support

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

The student can attend to the office of the lecturer of the course to ask for any comments and to understand what he missed in the class (Office hours).

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	1. Advanced Calculus and its applications to the engineering and physical sciences, Amazigo, John C., Rubenfeld, Lester, John Wiley, 1980. 2. Advanced calculus, Kaplan, Wilfred, 1915-Addison-Wesley, c 2003.

	3. Applied calculus for scientists and engineers, a journey in dialogues, Blume, Frank., Piston, Calvin Edward, Jones and Bartlett Publishers, c 2005. 4. Calculus with application with analytical geometry, Edwin J. Purcell and Dale Varberg, New York, 1984.
Essential References Materials	
Electronic Materials	
Other Learning Materials	Projector

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show
Other Resources (Specify, e.g., if specific laboratory equipment is required, list requirements or attach a list)	NA

G. Course Quality Evaluation

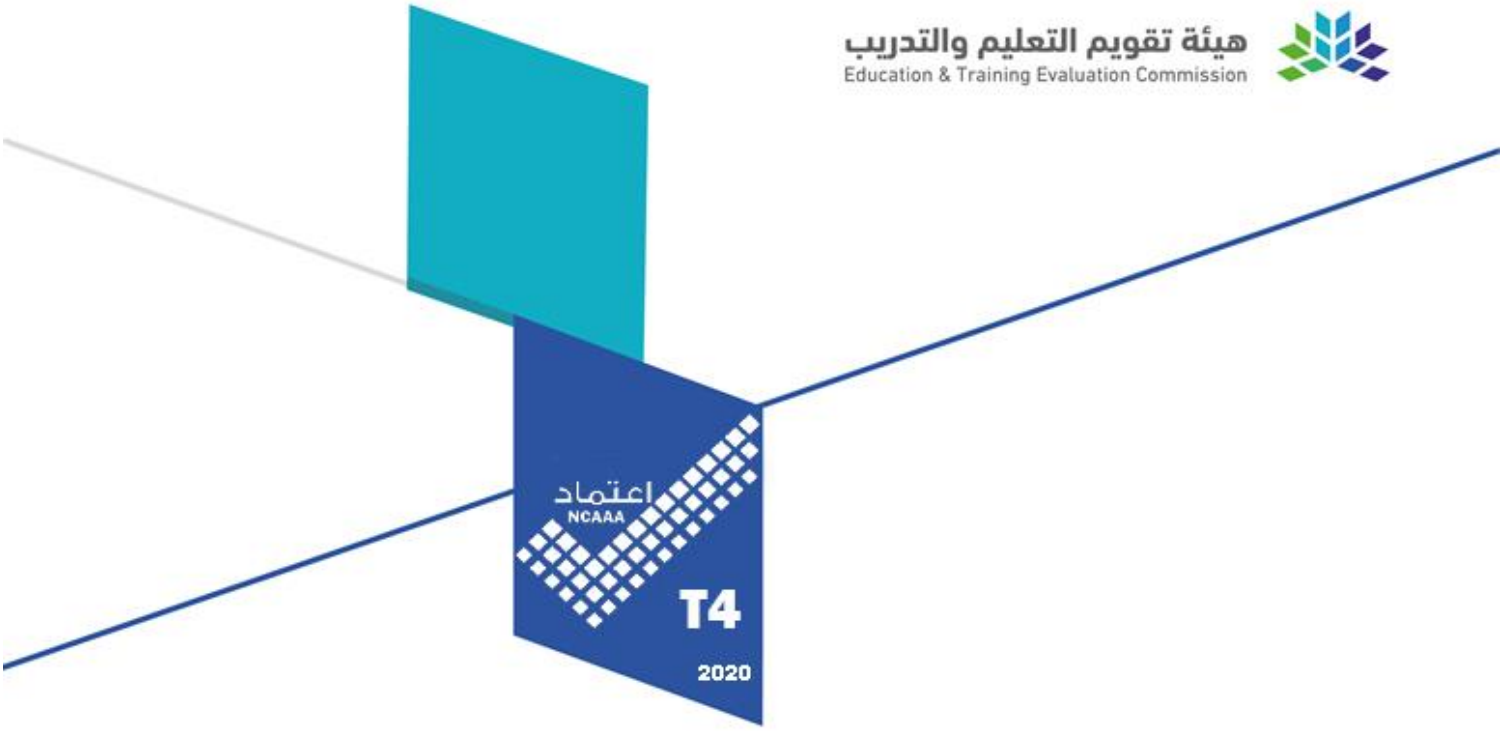
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students, Program Leaders, and Department	Direct
Teaching and assessment	Program Leaders, Department	Direct
Achievement of course learning outcomes	Program Leaders, Department	Direct

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 Engineering**
Course Code:	**COE1201**
Program:	**Bachelor of Engineering**
Department:	**Construction Engineering** **Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 3 (3+0)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 3 / 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**	50	100%
2	**Blended**	-	-
3	**E-learning**	-	-
4	**Distance learning**	-	-
5	**Other**	-	-

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	30
3	**Tutorial**	-
4	**Others** (specify)	-
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

The course is designed to familiarize 1st year students with the problem solving in different disciplines of Engineering, available in the university, including Civil, Construction, Mechanical, Electrical, Environmental, Industrial, Mechatronics and other technologies used in the fields.

2. Course Main Objective

The course objectives are

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. an ability to communicate effectively with a range of audiences
4. an ability to recognize ethical and professional responsibilities in engineering

situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Ability to learn the fundamental knowledge required to develop the mechanism for engineering problem definition and their appropriate solution	K1
1.2	Ability to understand the importance of engineering ethics and economic considerations in engineering design	K2
2	**Skills :**	
2.1	Ability to learn the skill required for professional communication through written and as well as oral reports	S5
2.2	Ability to use engineering software tools such as AutoCAD, MATLAB, Arduino etc. to design or to solve the engineering problems	S4
3	**Values:**	
3.1	Ability to learn the task distribution for collaborative work by practice solving the real engineering problems through teamwork	V2

C. Course Content

No	List of Topics	Contact Hours
1	Elements of Engineering Analysis and Design	4
2	Ethics and Economical aspects in engineering design	4
3	Professional communication skills	4
4	Application of engineering computational/software tools	4
5	Project Management skills for collaborative work	4
6	Lab work on application of engineering computational/software tools	30
Total		50

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	Ability to learn the fundamental knowledge required to develop the mechanism for engineering problem	Traditional Lecture / Classroom Activity	Mini projects, Assignment, Quizzes, Mid-Term exam, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	definition and their appropriate solution		Exam
1.2	Ability to understand the importance of economic considerations in engineering design	Traditional Lecture / Classroom Activity	Mini projects, Assignment, Quizzes, Mid-Term exam, Final Exam
…			
2.0	**Skills**		
2.1	Ability to learn the skill required for professional communication through written and as well as oral reports	Traditional Lecture / Classroom Activity	Mini projects, Assignment, Quizzes, Mid-Term exam, Final Exam
2.2	Ability to use of engineering software tools such as AutoCAD, MATLAB, Arduino etc. to design or to solve the engineering problems	Traditional Lecture / Classroom Activity	Mini projects, Assignment, Quizzes, Mid-Term exam, Final Exam
…			
3.0	**Values**		
3.1	Ability to learn the task distribution for collaborative work by practice solving the real engineering problems through teamwork	Traditional Lecture / Classroom Activity	Mini projects, Assignment, Quizzes, Mid-Term exam, Final Exam
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quizzes	Alternate Week	15%
2	Major Examination	5th	30%
3	HW Assignments/Mini Project	Alternate Week	15%
4	Final Examination	11th , 12th	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 the availability of faculty and teaching staff for individual student consultations and academic advice:

Faculty is available for his office hours (minimum 2 hours) per week for regular office hours to meet with the students for consultation and advice. The students are also welcomed to meet the faculty by appointment outside the regular office hours for this course.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Exploring Engineering: An Introduction to Engineering and Design, 5th Edition, 2021 Philip Kosky, Robert Balmer, William Keat, George Wise ISBN: 978-0-12-815073-3 Publisher: Elsevier Science & Technology https://www.elsevier.com/books/exploring-engineering/kosky/978-0-12-815073-3
Essential References Materials	Engineering Fundamentals: An Introduction to Engineering, 6th Edition, 2020 Saeed Moaveni ISBN: 978-0-357-11215-1 Cengage Learning, Inc https://www.webassign.net/features/textbooks/moavenieng6/details.html?l=subject
Electronic Materials	NIL
Other Learning Materials	NIL

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom, Capacity = 20 Students (per group)
Technology Resources (AV, data show, Smart Board, software, etc.)	Classroom must be equipped with computer and overhead projector otherwise portable projector and .laptop should be provided
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Instructional & Assessment Effectiveness, Quality of learning resources	Students	Indirect Assessment vis End of Tern Student Feedback Survey
Extent of Course Learning Outcomes (CLOs) attainment	Faculty	Direct Assessment via Quizzes, Major Exams, and Final Exam
Extent of Course Learning Outcomes (CLOs) attainment	Student	Indirect Assessment vis End of Tern Student Feedback Survey for CLOS attainment

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)

H. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Computer Programming for Engineering**
Course Code:	**IE1103**
Program:	**Bachelor of Science**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 4 (3+1)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 3/ Year 1
4. Pre-requisites for this course (if any)**: Calculus (2) for Engineering COE1102**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

This course introduces the basic concepts of computer programming to students with some problem-solving skills to solve reasonably complex problems. Students will be using a high-level programming language, to learn the fundamentals of computer programming skills including how to write, compile, and run programs using relevant tools for program development. Topics include variables and data types, methods, console input/output, control structures, coding styles, and the mechanics of running, testing, and debugging.

In this course, students will carry out practical projects that involve subsets of coding tasks in the lab alongside traditional lectures. Students will work individually as well as in pairs or small groups for some of the tasks. The course is organized to utilize a combination of project-based learning strategies and in-class lectures.

2. Course Main Objective

To equip students with the fundamental knowledge required to develop a procedural program using a high-level programming language.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize high-level programming language	K2
1.2	Recognize basic control and repetition structures	K2
2	**Skills :**	
2.1	Design basic objects	S4
2.2	The ability to analyze programming problems and implement programs that realize the required logic.	S4
2.3	Use the command line and relevant IDEs for writing, formatting, compiling, running, and debugging code.	S4
2.4	Use type-error messages, memory leaks, and dangling-pointer to debug a program	S4
3	**Values:**	
	NA	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to high-level programming languages (general background, programming errors, coding styles, and how to edit, compile, and run programs in relevant IDE)	6
2	Variables, data types, assignment statements, constants, data type conversions, arithmetic expressions, and the String type	12
3	input/output	6
4	Control statements and boolean expressions	12
5	Loops and repetition structures	12
6	Methods and using parameters	12
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 high-level programming language	Lectures, discussions, lab project-based tasks and assignments, self-test at the beginning of each lecture, and participation in solving examples	Participations, quizzes, lab exercises, assignments, and exams
1.2	Recognize basic control and repetition structures	Lectures, discussions, lab project-based tasks and assignments, self-test at the beginning of each lecture, and	Participations, quizzes, lab exercises, assignments and exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		participation in solving examples	
2.0	Skills		
2.1	Design basic objects	Lectures, discussions, lab project-based tasks and assignments, self-test at the beginning of each lecture, and participation in solving examples	Quizzes, lab exercises, and exams
2.2	The ability to analyze programming problems and implement programs that realize the required logic.	Lab exercises	Quizzes, lab exercises, and exams
2.3	Use the command line and relevant IDEs for writing, formatting, compiling, running, and debugging code.	Lab exercises	Lab exercises and assignments
2.4	Use type-error messages, memory leaks, and dangling-pointer to debug a program	Lectures, discussions, lab project-based tasks and assignments, self-test at the beginning of each lecture, and participation in solving examples	Quizzes, lab exercises, and exams
3.0	Values		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Lab exercises	1-10	30%
2	Mid-term exam	5-6	15%
3	Practical exam	10-11	15%
4	Final exam	11-12	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 :
Two office hours for each week of the course are designated for individual student consultations and academic advice.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	W. Savitch, JAVA: an introduction to problem solving and programming, global edition. Philadelphia, PA: Pearson Education, 2018.
Essential References Materials	Book and Slides
Electronic Materials	Slides and related handouts
Other Learning Materials	NIL

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom & Laboratory
Technology Resources (AV, data show, Smart Board, software, etc.)	Relevant IDEs Overhead projector and internet connection
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	

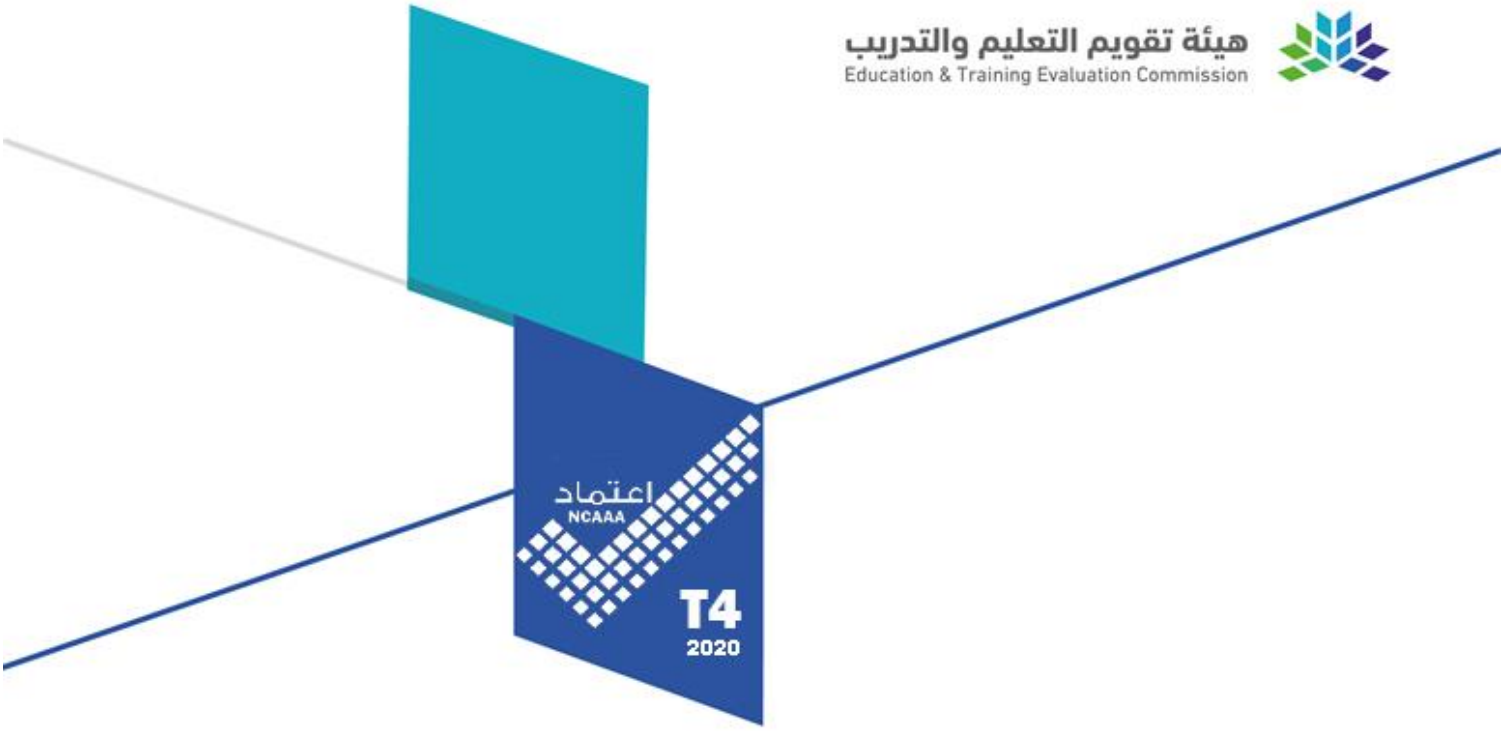
G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment	Students	Direct and Indirect
Quality of learning resources	Faculty	Direct

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	



توصيف المقرر الدراسي

اسم المقرر:	القرآن الكريم (2)
رمز المقرر:	**(QR2102)**
البرنامج:	**البكالوريوس**
القسم العلمي:	**القراءات**
الكلية:	**الدعوة وأصول الدين**
المؤسسة:	**جامعة أم القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: ساعتان.

2. نوع المقرر

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

ب. إجباري ☑ اختياري ☐

3. السنة / المستوى الذي يقدم فيه المقرر: السنة الثانية.

4. المتطلبات السابقة لهذا المقرر:

القرآن الكريم (1)

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		
4	التعليم عن بعد	20 ساعة	%100
5	أخرى		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	20 ساعة
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (ساعات استذكار)	
	الإجمالي	20 ساعة

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

يشمل المقرر على أربعة محاور:

1. حفظ نصف الجزء الثلاثين من القرآن الكريم: من سورة النبأ إلى سورة الطارق.
2. تلاوة ثلاثة أجزاء: من سورة الشورى إلى سورة الحديد.
3. دراسة أحكام التَّجويد.
4. شرح غريب الكلمات: من سورة النبأ إلى سورة الطارق.

2. الهدف الرئيس للمقرر

1. تعليم الطُّلَّاب النُّطق السَّليم لكتاب الله عزَّ وجلَّ، وفق طرق الأداء المعتبرة.
2. حفظ حزب واحدٍ من القرآن الكريم.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.	
1.3	أن يتعرف الطالب على أحكام التجويد.	
1.4	أن يعَرِّف الطَّالب غريب القرآن.	
2	**المهارات**	
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.	
2.3	أن يوضح معاني غريب القرآن.	
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.	
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.	
3	**القيم**	
3.1	أن يعمل ضمن فريق المقرر بكفاءة، ومسؤولية.	
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.	
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	مقدِّمة تعريفيَّة عن فضل تعلم القرآن الكريم، وأقسام اللحن الجلي والخفي، وتصحيح تلاوة سورة النبأ كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن.	2
2	تسميع سورة النبأ كاملة، تصحيح تلاوة سورة النازعات كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن تلاوة سورة الشورى، ، شرح درس التجويد (تفخيم اللام).	2
3	تسميع سورة النازعات كاملة، تصحيح تلاوة سورة عبس كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة الزخرف.	2
4	تسميع سورة عبس كاملة، تصحيح تلاوة سورة التكوير كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورتي الدخان والجاثية، شرح درس التجويد (اللام الشمسية والقمرية).	2
5	تسميع سورة التكوير كاملة، تصحيح تلاوة سورة الانفطار كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة الأحقاف.	2
6	تسميع سورة الانفطار كاملة، تصحيح تلاوة سورة المطففين كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورتي محمد صلى الله عليه وسلم والفتح، شرح درس التجويد (المدود – المد بسبب الهمز).	2
7	تسميع سورة المطففين كاملة، تصحيح تلاوة سورة الانشقاق كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة الحجرات وق والذاريات.	2

8	تسميع سورة الانشقاق كاملة، تصحيح تلاوة سورتي البروج والطارق مع التَّكليف بحفظهما، مع شرح غريب القرآن، تلاوة سورة الطور والنجم والقمر، شرح درس التجويد (تابع المدود – المد بسبب السكون).	2
9	تسميع سورة البروج، تلاوة سورة الرحمن والواقعة.	2
10	تسميع سورة الطارق، تلاوة سورة الحديد.	2
المجموع		20

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	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	المحاضرة التلقي والسماع العروض التقديمية	التقييم المستمر الاختبارات الشفوية
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.		
1.3	أن يتعرف الطالب على أحكام التجويد.		
1.4	أن يعَرِّف الطَّالب غريب القرآن.		
2.0	**المهارات**		
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	المحاضرة الحوار والمناقشة التلقِّي والمحاكاة العرض والاستماع التَّعلم الذاتي العروض التقديمية أسلوب حل المشكلات	الاختبارات الشفوية الاختبارات التحريرية
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.		
2.3	أن يوضح معاني غريب القرآن.		
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.		
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.		
3.0	**القيم**		
3.1	أن يعمل ضمن فريق المقرر بكفاءة ومسؤولية.	التَّعلم الذاتي التَّعليم التعاوني حلقات النقاش ملف الإنجاز	بطاقة الملاحظة
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.		
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.		

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	**المشاركة وحفظ الآيات وتلاوتها**	مستمر	%20
2	**الاختبار النصفي**	السادس	%20

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
3	الاختبار النهائي	العاشر	%60

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

المرجع الرئيس للمقرر	-القرآن الكريم. - الميسر في غريب القرآن الكريم المطبوع بمجمع الملك فهد لطباعة المصحف الشريف. - التجويد الميسر المطبوع بمجمع الملك فهد لطباعة المصحف الشريف.	
المراجع المساندة	- البرهان في تجويد القرآن/ محمد الصادق قمحاوي. - هداية القارئ إلى تجويد كلام البارئ/ عبد الفتاح السيد عجمي المرصفي. - مذكرة في علم التجويد/ محمد نبهان بن حسين مصري.	

- ساعات الإرشاد الأكاديمي (السَّاعات المكتبية للأستاذ).
- مساعدة الطلبة في توفير المصادر غير المتوفرة في مكتبة الكلِّيَّة.
- مساعدة الطلبة ذوي الاحتياجات الخاصة (ذوي البصيرة) في توفير المصادر ببرايل.
- إحالة الطلبة الوافدات والمتعثرات والموهوبات على لجنة الإرشاد الأكاديمي بالقسم والجهات المعنيَّة بشؤون الطَّلبة.

-تشكيل لجنة تطوير المقرَّرات بالبرنامج، تعنى بمراجعة المفردات وطرق تدريسها وتقييمها، وتقييم المخرجات من خلال المتابعة المستمرة للتَّغذية الرَّاجعة من قبل الطَّلبة وتقارير المدرِّسين، ثم تقدِّم توصياتها لمجلس القسم لتأخذ مجراها الأكاديمي.

-إعداد الأسئلة التَّقويميَّة نهاية الدَّرس والأنشطة المنزليَّة.

-توجيه الطُّلاب لسماع تلاوات المقرئين المجوِّدين من خلال الوسائل المتاحة.

-المقارنة المرجعيَّة بالمقرَّرات المشابهة له في الجهات الأكاديميَّة الأخرى.

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المصادر الإلكترونية	- موقع مكتبة جامعة أم القرى. - المكتبة الوقفية. - المكتبة الشاملة. - ملتقى أهل التفسير. - منتديات قراء القرآن.	
أخرى	-	

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	-قاعات دراسية بها عدد من الكراسي والطاولات للاختبارات النصفية والنهائية.
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	– الحاسب الآلي. – التطبيقات الالكترونية.
تجهيزات أخرى (تبعاً لطبيعة التخصص)	-

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
تقويم فاعليَّة استراتيجيات التَّدريس المستخدمة	أستاذ زميل يدرِّس نفس المقرَّر	مباشر: الزِّيارة للفصل وتقرير فاعليَّة استراتيجيَّات التَّدريس المستخدمة.
طرق تقييم الطُّلَّاب	الطُّلَّاب	غير مباشر: استبانة تقييم المقرَّر المتاحة على الموقع الإلكتروني.
مدى تحصيل مخرجات التَّعلم للمقرَّر	قيادة البرنامج	غير مباشر: تقرير المقرَّر.

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	

أستاذ زميل يدرِّس نفس المقرَّر
الطُّلَّاب
قيادة البرنامج

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Statics**
Course Code:	**COE2301**
Program:	**Bachelor of Science in Construction Engineering**
Department:	**Construction Engineering Department**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 4 (4+0)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 4 / Year 2
4. Pre-requisites for this course (if any)**: Calculus (3) for Engineering COE1103**
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**	✓	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Basic concepts and principles of mechanics; vector algebra; equilibrium of particles in two and three dimensions; definition of moment and couple; reduction of systems forces; equilibrium of rigid bodies; statically determinate structures, including beams, trusses, frames, and machines; internal forces, shear force and bending moment diagrams in beams; friction and its applications, centroid and center of gravity of lines, areas, and volumes; moment of inertia and radius of gyration.

2. Course Main Objective

The main purpose of this course is to prepare students to evaluate the equilibrium of rigid bodies subjected to a system of forces and apply this knowledge efficiently and independently to develop the relationship with internal and external forces to solve determinate structures.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Enable the students to demonstrate the principles and laws of statics and be able to apply them to the solution of simple problems.	K1
1.2	Enable the students to illustrate that mechanics is a quantitative subject and appreciate the use of mathematics (in particular, the vector analysis, derivatives and integrals) for solving problems.	K2
1.3	Enable the students to outline the analysis of forces in 2 & 3 dimensions and state the resultant and moments of different force systems.	K1
1.4	Enable the students to illustrate the free body diagrams and to determine reactions using equilibrium equations.	K1
2	**Skills :**	
2.1	Use equations of equilibrium to determine the resultant and equilibrant of systems of coplanar forces, internal forces in pin joined structural elements.	S1
2.2	Show the conditions of static equilibrium of forces acting on the structural elements.	S1
2.3	Calculate the centroid and moment of inertia of the sections.	S2
2.4	Evaluate the dry friction force by using the laws of friction.	S3
2.5	Draw the shear force and bending moment diagram for determinate structures.	S3
3	**Values:**	
	NA	

C. Course Content

No	List of Topics	Contact Hours
1	Unit 1. 1.1 Fundamental concepts in mechanics, Units of measurement 1.2 Systems of units, Numerical Calculations	2
2	Unit 2. 2.1 Concept of scalar and vector, Vector operations, 2.2 System of coplanar forces, Position vector, 2.3 Force vector directed along a line, Dot product of vectors.	4
3	Unit 3. 3.1 Conditions of equilibrium in 2D and 3D, Free body diagram 3.2 Coplanar force system, Three-dimensional force system.	4
4	Unit 4. 4.1 Moment of a force, Vector formulation, Principle of moments 4.2 Moment of a couple, Equivalent system, 4.3 Reduction of a force and couple system, 4.4 Reduction of a simple distributed loading.	4
5	Unit 5. 5.1 Conditions of rigid body equilibrium 5.2 Equations of equilibrium in 2D and 3D, Support reactions 5.3 Constraints of a rigid body.	6
6	Unit 6. 6.1 Simple truss, Method of joints, Method of sections	6

	6.2 Frames and machines.	
7	Unit 7. 7.1 Internal forces developed in structural members, 7.2 Shear and moment equations and diagrams.	6
8	Unit 8. 8.1 Characteristics of dry friction, 8.2 Problems involving dry friction.	2
9	Unit 9. 9.1 Centroid and center of gravity of a body, Composite bodies 9.2 Pressure distribution over a surface	3
10	Unit 10. 10.1 Definition of moments of inertial for areas 10.2 Parallel axes theorem, Moment of inertial of composite areas 10.3 Radius of gyration.	3
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	Enable the students to demonstrate the principles and laws of statics and be able to apply them to the solution of simple problems.	Interactive learning Independent learning	Assignments, Written Exams (Quiz, Midterm, Final)
1.2	Enable the students to illustrate that mechanics is a quantitative subject and appreciate the use of mathematics (in particular, the vector analysis, derivatives and integrals) for solving problems.		
1.3	Enable the students to outline the analysis of forces in 2 & 3 dimensions and state the resultant and moments of different force systems.		
1.4	Enable the students to illustrate the free body diagrams and to determine reactions using equilibrium equations.		
2.0	**Skills**		
2.1	Use equations of equilibrium to determine the resultant and equilibrant of systems of coplanar forces, internal forces in pin joined structural elements.	Interactive learning Independent learning	Assignments, Written Exams (Quiz, Midterm, Final)
2.2	Show the conditions of static equilibrium of forces acting on the structural elements.		
2.3	Calculate the centroid and moment of inertia of the sections.		
2.4	Evaluate the dry friction force by using the laws of friction.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.5	Draw the shear force and bending moment diagram for determinate structures.		
3.0	**Values**		
	NA		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	4	5%
2	Assignments	3,5,6,7,9,10,11	10%
3	Mid-term	5	30%
4	Quiz 2	9	5%
5	Final Exam	11	50%

***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 :

- Office hours 1 hr/week; students can go in times of office hours for teacher to explain what could not be understood from the lesson.
- Students can communicate with a staff member outside the official working hours by email.
- Students are also encouraged to visit their academic advisors.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Hibbeler, R.C. (2013). Engineering Mechanics: Statics, USA: Prentice Hall Publisher.
Essential References Materials	Riley .W. F, Sturges. L. D. (1996). Engineering Mechanics –Statics, USA: John Wiley & sons. Meriam. J.L, Kraige. L.G. (2008) Engineering Mechanics: Statics, USA: John Wiley & sons.
Electronic Materials	https://uqu.edu.sa/
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms with a capacity of at least 25 students and fitted with multimedia projector and a computer.

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	None
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment as per QMS-Policy- Feedback Survey, QMS- Monitoring Students' Satisfaction	Students	Indirect: Analyzing the results of the following surveys Course Evaluation Survey(CES), Program Evaluation Survey (PES), Student Experience Survey (SES)
Quality of Exam papers and Verifying Standards of Student Achievement as per QMS-Policy- Policy for Examinations and Marking, QMS- Procedure for Marking Examinations	Faculty	Direct: Course Report
Implementation of the action plans based on previous semester as per QMS-Policy- Course Review, QMS-Procedure for Course Review, QMS-Procedure for Curriculum Review	Faculty	Direct and Indirect: Course Report
Monitoring Teaching and Learning as per QMS-Policy- Monitoring of Teaching and Learning	Chairperson/Program Director/Course Director	Indirect: Feedback by Chairperson/Program director/Course director. Program Delivery Record.
Effectiveness of planned Teaching Strategies QMS-Policy- Course Review	Faculty	Indirect: Course Report
Course effectiveness and planning for improvement as per QMS-Policy- Course Review, QMS-Procedure for Course Review, QMS- Procedure for Curriculum Review	Faculty	Direct and Indirect: Course report
Verifying Standards of	Assessment External	Direct: Report of assessment

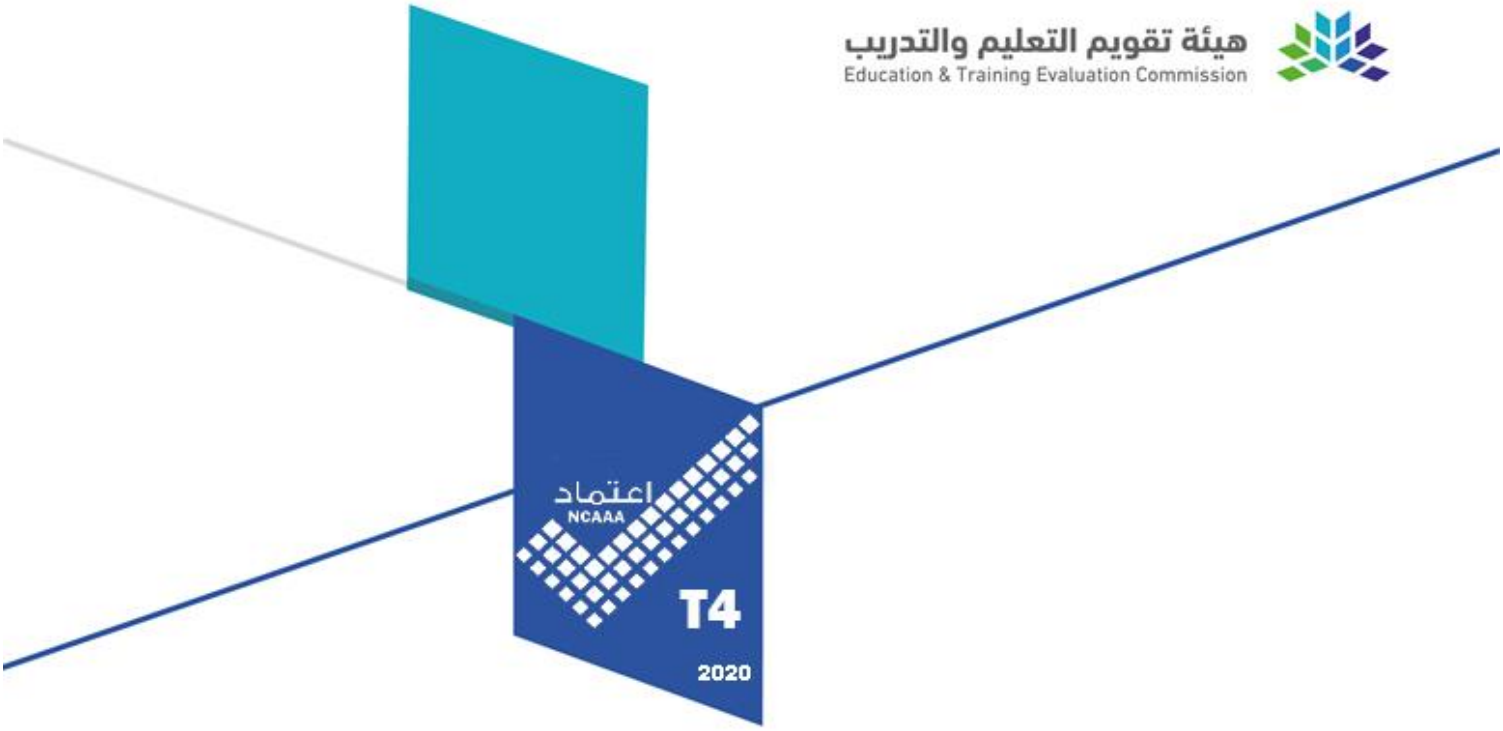
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student Achievement and Quality of Exam papers as per QMS- External Assessment Review	Reviewer	external reviewer. Review of sample of 10% of student's assessments and coursework scripts.

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	Construction Engineering Council
Reference No.	
Date	2022

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission



Course Specifications

Course Title:	**Engineering Drawing**
Course Code:	**COE2202**
Program:	**Bachelor of Science in Construction Engineering**
Department:	**Construction Engineering Department**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 3 (1+2)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 4 / Year 2
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**	**70**	**100%**
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	**10**
2	**Laboratory/Studio**	**60**
3	**Tutorial**	
4	**Others** (specify)	
	Total	**70**

B. Course Objectives and Learning Outcomes

1. Course Description

Introduction to drawing basics, types of lines, 2D and 3D manual drawings, isometric and pictorial drawings, orthographic views, sections and free hand sketch skills. Using AutoCAD software for engineering drawing.

2. Course Main Objective

By the completion of the course, the student should be able to:

2.1 list the different types of engineering drawings and the standard engineering drawing formats

2.2 interpret the symbols in the drawings

2.3 communicate dimensions properly and handle Computer based information.

2.4 identify and interpret the line conventions used on engineering drawings

2.5 define common terms, symbols, legends, notes and abbreviations used on engineering drawings

2.6 form an orthographic drawing Engineering

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	list the different types of engineering drawings and the standard engineering drawing formats	K1
1.2	define common terms, symbols, legends, notes and abbreviations used on engineering drawings	K1
1.3		
1...		
2	**Skills :**	
2.1	identify and interpret the line conventions used on engineering drawings	S1
2.2	interpret the symbols in the drawings	S1
2.3	Communicate dimensions properly and handle Computer based information.	S3
2...	form an orthographic drawing Engineering	S4
3	**Values:**	

C. Course Content

No	List of Topics	Contact Hours
1	Drawing equipment (T-Square, Set of Squares, protractor, compass, Board clips, ruler,)	3
2	Drawing principles (line types, sheet sizes, Title blocks, Drawings scales , …)	3
3	Geometric construction (Geometric construction on lines, arcs and scales, …)	4
4	First angle and third angle projections	4
5	Pictorial projection (pictorial presentation of point, line and surface, and solids.	4
.6..	Multi-views projection (projection – views of point, views of solids- layout of views)	4
7	Isometric and oblique sketching of solids	6
8	Extracting the missing view from a set of given views	6
9	Sectioning and section view (sections and types- full, half and partial sections- special sections- hatching)	6

10	AutoCAD applications	30
`Total		70

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 the different types of engineering drawings and the standard engineering drawing formats	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
1.2	define common terms, symbols, legends, notes and abbreviations used on engineering drawings		
…			
2.0	**Skills**		
2.1	identify and interpret the line conventions used on engineering drawings	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
2.2	interpret the symbols in the drawings		
…			
3.0	**Values**		
	N/A		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	each week	10%
2	Quiz	3	10%
3	Midterm exam	5	20%
4	Lab exam	12	20%
5	Final exam	13	40%
6			
7			
8			

***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 :

- Office hours 6 hr. /week; students can go in times of office hours for teacher to explain what could not be understood from the lesson.

- Students can communicate with a staff member outside the official working hours by email.
- Students are also encouraged to visit their academic advisors

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Thomas E. French, McGraw "Principles of Engineering Drawing". Hill Higher Education,"14th ed., 2003.
Essential References Materials	• Scott Onstott, "AutoCAD 2018 and AutoCAD LT 2018 Essentials", Sybex Inc.,U.S., August 2017. • Lakhwinder Pal Singh, Harwinder Singh, "Engineering Drawing, Principles and Applications". Cambridge University Press; 1st edition (June 2021)
Electronic Materials	• Electronic materials of the required textbook and its PowerPoints slides • Umm Al-Qura LMS related contents
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Lecture rooms with a capacity of at least 20 students and fitted with multimedia projector and a computer.
Technology Resources (AV, data show, Smart Board, software, etc.)	Data show, Smart Board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and	students	Indirect: Analyzing the results

Evaluation Areas/Issues	Evaluators	Evaluation Methods
assessment as per QMS-Policy-006 Feedback Survey, QMS-QAP-116 Monitoring Students' Satisfaction		of the following surveys Course Evaluation Survey(CES), Program Evaluation Survey (PES), Student Experience Survey (SES)
Quality of Exam papers and Verifying Standards of Student Achievement as per QMS-Policy004 Policy for Examinations and Marking, QMS-ACP-102 Procedure for Marking Examinations	Examination Committee	Direct: Peer review of examination papers and review or double check a minimum of three or 10% of answer papers. Verifying the 8 Evaluation Areas/Issues Evaluators Evaluation Methods entries in the Activity Mark Sheet.
Achievement of learning outcomes as per QMS-Policy-001 Course Review, QMS-CDP-106, QMS-CDP-112 Curriculum Review	Faculty	Direct: Course Report (Section B-3)
Implementation of the action plans based on previous semester as per QMS-Policy-001 Course Review, QMS-CDP-106 Procedure for Course Review, QMS-CDP-112 Procedure for Curriculum Review	Faculty	Direct and Indirect: Course report (Section G-1, G-2)
Monitoring Teaching and Learning as per QMS-Policy-005 Monitoring of Teaching and Learning	Chairperson/Program Director/Course Director	Indirect: Feedback by Chairperson/Program director/Course director. Program Delivery Record.
Effectiveness of planned Teaching Strategies QMS-Policy-001 Course Review	Faculty	Indirect: Course Report (Section B-4)
Course effectiveness and planning for improvement as per QMSPolicy-001 Course Review, QMSCDP-106 Procedure for Course Review, QMS- CDP-112 Procedure for Curriculum Review	Faculty	Direct and Indirect: Course report (Section G-3)
Verifying Standards of Student Achievement and Quality of Exam papers as per QMS-ACP-119 External Assessment Review	Assessment External Reviewer	Direct: Report of assessment external reviewer. Review of sample of ten or 10% of student's assessments and coursework scripts.

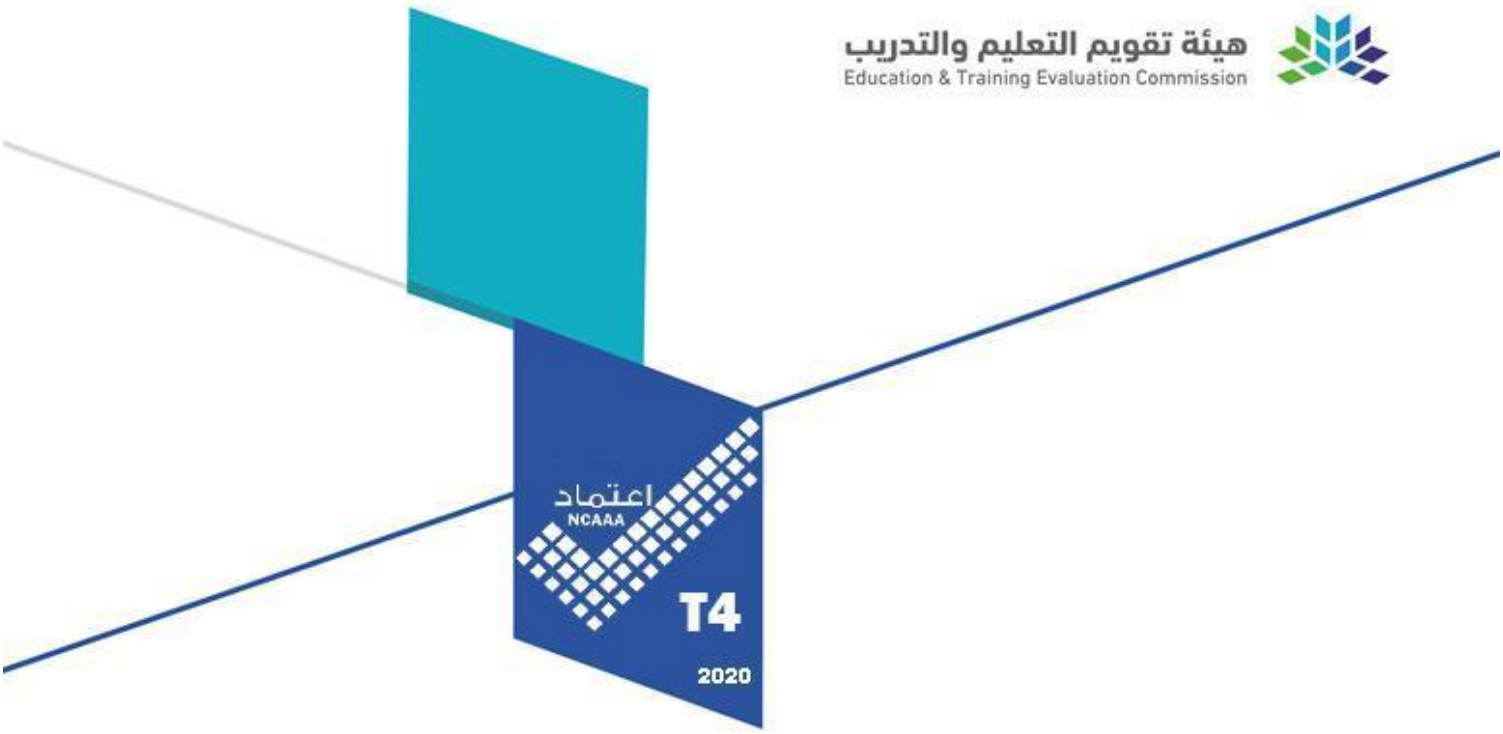
Evaluation areas (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

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:	**Physics (3) for Engineering**
Course Code:	**IE2103**
Program:	**Bachelor of Construction Engineering** **Bachelor of Industrial Engineering**
Department:	**Construction Engineering Department** **Industrial Engineering Department**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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 / Year 2
4. Pre-requisites for this course (if any)**: Physics (2) for Engineering IE1102**
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**	20	40 %
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**	30 (lab)	60 %

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others**	
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

After completing the first two physics for engineering courses (prior to this course), students will study some basic concepts of electricity and magnetism in this course. This includes: Coulomb's law, electric and magnetic fields, and electric current and circuits.

2. Course Main Objective

The course is design to provide students with some basic and essential concepts in general physics. The main subjects that this course covers are listed below.
In addition to these items, the students should gain practical skills through conducting experiments in the laboratory.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and understanding**	

CLOs		Aligned PLOs
1.1	Describe the interaction of electric field with matter	K1
1.2	Explain magnetic field formation	K2
1.3		
2	**Skills:**	
2.1	Apply Coulomb`s law, electric field of static charge	S1
2.2	Analyze electric circuits	S2
2.3		
3	**Values:**	
3.1	Work effectively responsibly in teamwork	V2
3.2		

C. Course Content

No	List of Topics	Contact Hours
1	Coulomb's Law and Electric Field Electric Charge Coulomb's Law Charge is Quantized The Electric Field The Electric Field Due to a Point Charge A Point Charge in an Electric Field	4
2	Capacitance Capacitance Calculating the Capacitance Capacitors in Parallel and in Series Energy Stored in an Electric Field Capacitor with a Dielectric	4
3	Current and Resistance and Circuits Electric Current Electric Current Density Resistance and Resistivity Ohm's Law Resistors in parallel and in series Kirchhoff's Rules *RC* Circuits	6
4	Definition of Magnetic Fields, and Magnetic fields due to Currents The production of a Magnetic Field The Definition of *B* Magnetic Force on a Current-Carrying Wire Calculating the Magnetic Field Due to a Current Force Between Two Parallel Currents Ampere's Law Solenoids and Toroids	6
Total		20

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 interaction of electric field with matter	1. Demonstrating the basic principles through lectures. 2. Discussing phenomena with illustrating pictures and diagrams. 3. Lecturing method: ● Board, Power point. ● Discussions ● Start each chapter by general idea and the benefit of it. 4. Perform some experiments in the Laboratory	1. Solve some examples during the lecture. 2. Discussions during the lectures 3. Exams: a) Quizzes. b) Midterm exams. c) Final exam. d) Practical exams.
1.2	Explain magnetic field formation		
1.3			
2.0	**Skills**		
2.1	Apply Coulomb`s law, electric field of static charge	1. Solve some problems in class. 2. Explain some proofs during lectures. 3. Encourage students to participate in solving problems.	1. Solve some examples during the lecture. 2. Discussions during the lectures 3. Exams: a) Quizzes. b) Midterm exams. c) Final exam. d) Practical exams.
2.2	Analyze electric circuits		
2.3			
3.0	**Values**		
3.1	Work effectively responsibly in teamwork	● Organize the students as a small group in the lab to conduct experiments and prepare reports.	● Evaluate the scientific reports. ● Discussing the reports with each teamwork. ● Evaluate the reports of each student.
3.2			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm exam	10th	20 %
2	Homework & quizzes	All weeks	10 %
3	Lab reports and final exam	End of the semester	20 %
4	Final written exam	End of the semester	50%

***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:

Each student has the chance to meet and discuss with his instructor in class and during office hours. Additionally, students can contact the coordinator of the course should they have any other issue in the course.)

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Halliday & Resnick, Jearl Walker, "Fundamentals of Physics" 10th Edition (2018)
Essential References Materials	
Electronic Materials	• Electronic materials of the required textbook and its PowerPoints slides • Umm Al-Qura LMS related contents
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	● Classroom ● Laboratory ● Library
Technology Resources (AV, data show, Smart Board, software, etc.)	● Data show ● Black Bord
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 Strategies	Students	Questionnaire
Effectiveness of student assessment	Instructors of the course	Peer review of exam marking
Extent of achievement of course learning outcomes	Instructor	Course report
Quality of learning resources	Instructor	Course 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:	**Engineering Analysis (1)**
Course Code:	**IE2201**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fourth Semester / Second Year
4. Pre-requisites for this course (if any)**: Calculus (3) for Engineering**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Basic matrix algebra including matrices, inverses, linear systems, determinants, Eigen- values, Eigenvectors, vector spaces, solution of linear systems and Gaussian elimination, linear transformations, applications, computer applications in linear algebra.

2. Course Main Objective

By the completion of the course, the student should be able to:

1. 1.1 know the basic matrix algebra
2. 1.2 list theorems about determinants
3. 1.3 classify and solve linear systems of linear algebraic equations.
4. 1.4 recognize the basic notions of linear systems, vectors, matrix algebra, and vector spaces.
5. 1.5 use computational skills and interpret results accurately.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Know the basic matrix algebra.	K1
1.2	List theorems about determinant.	K2
1.3		
1...		
2	**Skills:**	
2.1	Classify and solve linear systems of linear algebraic equations.	S1
2.2	Recognize the basic notions of linear systems, vectors, matrix algebra, and vector spaces.	S2
2.3	Use computational skills and interpret results accurately.	S4
2...		
3	**Values:**	
3.1	NA	
3.2		
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Systems of Linear Equations	6
2	Matrix Algebra	6
3	Determinants	6
4	Vectors and Vector Spaces	6
5	Linear Transformations	6
6	The Eigenvalues Problem	6
7	Special Matrices and Matrix Decomposition	4
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	Know the basic matrix algebra.	• Lectures • Homework • Assignments	• Mid and Final exams) • Monthly quizzes • Evaluated homework
1.2	List theorems about determinant.		
…			
2.0	**Skills**		
2.1	Classify and solve linear systems of linear algebraic equations.	• Lectures • Homework • Assignments	• Mid and Final exams) • Monthly quizzes Evaluated homework
2.2	Recognize the basic notions of linear systems, vectors, matrix algebra, and vector spaces.		
2.3	Use computational skills and interpret results accurately.		
3.0	**Values**		
3.1	NA		
3.2			
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quiz	Continuous Assessment	15%
5	Final Exam	During 12th 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:

- Weekly office hours
- Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	"Linear Algebra Demystified", David McMahon, McGraw-Hill, 2006"
Essential References Materials	None
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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

توصيف المقرر الدراسي

اسم المقرر:	**توصيف مقرر الثقافة الإسلامية (٢)**
رمز المقرر:	ICC2202
البرنامج:	**البكالوريوس**
القسم العلمي:	**الدعوة والثقافة الإسلامية**
الكلية:	**الدعوة وأصول الدين**
المؤسسة:	**جامعة أم القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة:

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)

ثقافة إسلامية ١٠١

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**	**لا ينطبق**	**لا ينطبق**
2	**لتعليم المدمج**	**لا ينطبق**	**لا ينطبق**
3	**التعليم الإلكتروني**	**لا ينطبق**	**لا ينطبق**
4	**التعليم عن بعد**	٢٠	%٩٠,٩٠
5	**أخرى: (الاختبارات النصفية والنهائية)**	٢ساعتان	%٩,٠٩

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات: (بواقع ساعتين في الأسبوع لمدة ١٠ أسبوعا)	٢٠
٢	معمل أو استوديو	لا ينطبق
٣	دروس إضافية	لا ينطبق
٤	أخرى (تذكر): (الاختبارات النصفية والنهائية)	٢ ساعتان
الإجمالي		٢٢

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

يهتم هذا المستوى بربط الطالب بمصادر الدين: الكتاب والسنة، من خلال بيان حاجة الناس إلى هذه المصادر، وأهميتها، وحجيتها، وكيفية ثبوتها، وحفظها، وطرق تعظيمها، وكيفية التعامل معها.

٢. الهدف الرئيس للمقرر:

١- التعرف على مصادر المعرفة، ومجال كل منها.
٢- توضيح مصادر التشريع الإسلامي وأهميتها.
٣- تمييز مصادر التشريع وصلاحيتها لكل زمان ومكان.

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	يعرّف بالقرآن وكيفية نزوله وجمعه وقراءاته وإعجازه وطرق تفسيره	
1.2	يشرح معاني آيات سورة الحجرات	
1.3	يوضح مكانة السنة في التشريع وتدوينها وأهم مصطلحاتها ومصادرها ونماذج منها	
1.4	يقدم بنبذة مختصرة عن الإجماع والقياس والاجتهاد والفتوى	
2	**المهارات**	

مخرجات التعلم للمقرر		رمز مخرج التعلم المرتبط للبرنامج
2.1	يوضح أهم أوجه إعجاز القرآن	
2.2	يستنبط أهم الفوائد والأحكام من تفسير سورة الحجرات	
2.3	يرسم مخطط توضيحي لأقسام الحديث من حيث القبول والرد	
2.3	يشرح عشرة أحاديث مختارة من السنة النبوية	
3	**القيم**	
3.1	يعظم قدر النبي صلى الله عليه وسلم ويعرف مكانته وواجبه نحوه ونحو سنته ونحو مصادر التشريع الإسلامي	
3.2	يكون علاقات داخل الجامعة وخارجها قائمة على الاستقلالية وتحمل المسؤولية	
3.3	يتمثل القيم والأخلاق الإسلامية الحميدة ويبني من خلالها تعامله مع الآخرين بشكل مميز وحسن .	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	**مدخل إلى مصادر المعرفة:** يدرس الطالب في هذه المفردة مصادر المعرفة، والتي تكمن في: النقل، والعقل، والحس، والفطرة، ومفهوم كل منها، ومجالاتها، وأهميتها.	٢
٢	**الوحي:** يدرس الطالب في هذه المفردة تعريف الوحي، وصوره، وأدلة صدقه، وحاجة الناس إليه.	٢
٣	**مصادر التشريع:** في هذه المفردة سيدرس الطالب التعريف بالقرآن والسنة والإجماع والقياس كمصادر للتشريع في الإسلام.	٢
٤	**مدخل إلى القرآن الكريم:** هذه المفردة تتطرق لتعريف القرآن الكريم، وكيفية نزوله، ومراحل جمعه وتدوينه، خصائصه.	٢
٥	**واجبنا تجاه القرآن الكريم:** في هذه المفردة سيدرس الطالب أهم واجبات المسلم نحو القرآن الكريم. **التزكية بالقرآن الكريم:** في هذه المفردة سيدرس الطالب طرق التزكية بالقرآن الكريم وأثره في تصحيح الأخلاق والسلوك.	٢
٦	**مدخل إلى السنة النبوية:** في هذه المفردة سيدرس الطالب تعريف السنة، وأدلة حجيتها، ومراحل جمعها وتدوينها، وبيان مكانتها	٢
٧	**أقسام الحديث من حيث القبول والرد:** في هذه المفردة سيدرس الطالب: -أقسام الحديث الصحيح والحسن والضعيف، ومعرفة المقبول منها والمردود، إضافة إلى تعريفه بطرق البحث في المواقع الإلكترونية في مجال الحديث. **المنهج النقدي عند المحدثين:** -أبرز معالم المنهج الذي سلكه المحدثون في تنقيتهم للسنة النبوية مما شابها من الدخيل، وكيفية تمييزهم الصحيح من الضعيف، مع إلحاق ذلك بدراسة تطبيقية حول صحيح البخاري.	٢
٨	**واجبنا تجاه الرسول صلى الله عليه وسلم وسنته:** في هذه المفردة سيدرس الطالب أهم واجبات المسلم نحو السنة النبوية، والتي تكمن في: تعظيمها، والتسليم لها، والعمل بها، والدفاع عنها.	٢
٩	**مكانة الصحابة وفضلهم:** في هذه المفردة سيتعرف الطالب على مكانة الصحابة وفضلهم، والواجب نحوهم، ودورهم في تلقي القرآن والسنة وروايتها.	٢
١٠	**قواعد في التعامل مع النصوص الشرعية:** في هذه المفردة سيتعرف الطالب على واجبات التعامل مع النصوص الشرعية، وأهم القواعد الشرعية في ذلك، وأهمها: وجوب الإيمان بالنصوص الشرعية، واشتمالها على أصول الدين، ورد التنازع إليها، وعدم التعارض بينها وبين العقل.	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	يعرف القرآن وكيفية نزوله وجمعه وقراءاته وإعجازه وطرق تفسيره	المحاضرات والمناقشات	الاختبارات التحريرية والشفوية. أوراق عمل
1.2	يبين تفسير سورة الحجرات	التعلم الذاتي - ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	الاختبارات التحريرية والشفوية. عرض البحوث والمناقشة
1.3	يشرح مكانة السنة في التشريع وتدوينها وأهم مصطلحاتها ومصادرها ونماذج منها	المحاضرات والمناقشات - ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	الاختبارات التحريرية والشفوية. عرض البحوث والمناقشة
1.4	يُقدم نبذة مختصرة عن الإجماع والقياس والاجتهاد والفتوى	الاستقراء والعصف الذهني المحاضرات والمناقشات	الاختبارات التحريرية والشفوية.
2.0	**المهارات**		
2.1	يوضح أهم أوجه إعجاز القرآن	العصف الذهني الحوار والمناقشة عمل أبحاث وأوراق عمل زيارة بعض المواقع الالكترونية التي تعتني بهذا الموضوع	التقييم الجماعي تقييم الأبحاث وأوراق عمل
2.2	يستنبط أهم الفوائد والأحكام من تفسير سورة الحجرات	الطريقة الاستقرائية ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	الملاحظة المباشرة وتقييم قدرة الطالب على الاستنباط والتحليل
2.3	يرسم مخطط توضيحي لأقسام الحديث من حيث القبول والرد	التعليم التعاوني خريطة المفاهيم	الملاحظة المباشرة والتقييم الجماعي
2.4	يشرح عشرة أحاديث مختارة من السنة النبوية	التعلم الذاتي التكليف بواجبات	الاختبار تقييم أبحاث
3.0	**القيم**		
3.1	يعظم قد النبي صلى الله علسه وسلم ويعرف مكانته وواجبه نحروه ونحو سنته	التعلم التعاوني الحوار والمناقشة	الملاحظة المستمرة وتقيم الأداء
3.2	يكون علاقات داخل الجامعة وخارجها قائمة على الاستقلالية وتحمل المسؤولية	التعلم التعاوني	الملاحظة المستمرة والتقييم الجماعي
3.3	يتمثل القيم والأخلاق الإسلامية الحميدة	التعليم التعاوني من خلال التكليف بواجبات وأبحاث وأنشطة جماعية	تقييم الأبحاث الملاحظة المباشرة لسلوك الطلاب وتوجهاتهم

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	الاختبار التحريري والشفوي	منتصف ونهاية الفصل الدراسي	٦٠٥
٢	التقويم المستمر	كل أسابيع الدراسة	%١٠

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
٣	عرض البحوث والمناقشة	التاسع	١٥%
٤	الملاحظة والتقويم الجماعي	ابتداء من الأسبوع الرابع	١٥%

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- **تعريف الطالب بالمقرر**
- **متابعة بعض الحالات الفردية التي تحتاج إلى اهتمام خاص.**
- **توجيه الطالب الى كيفية الإفادة من التقنيات الحديثة.**
- **الساعات المكتبية.**
- **ربط جميع الطلاب بمرشدين أكاديميين لمساعدتهم على فهم متطلبات البرنامج وعمليات التسجيل.**
- **نشر جميع معلومات الاتصال الخاصة بعضو هيئة التدريس على الصفحة الرئيسية للمقرر الدراسي على البلاك بورد.**

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	الرسالة لمحمد بن إدريس الشافعي.
المراجع المساندة	١- جماع العلم لمحمد بن إدريس الشافعي. ٢- الإتقان في علوم القرآن للسيوطي. ٣- الاعتصام لأبي إسحاق إبراهيم بن موسى الشاطبي. ٤- نزهة النظر في شرح نخبة الفكر لابن حجر العسقلاني. ٥- رفع الملام عن الأئمة الأعلام لشيخ الإسلام ابن تيمية الحراني. ٦- مجموع فتاوى شيخ الإسلام ابن تيمية. ٧- التبيان في آداب حملة القرآن للنووي.
المصادر الإلكترونية	المكتبة الرقمية السعودية
أخرى	

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعة دراسية مجهزة افتراضية مكتبة اليكترونية
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	أجهزة حاسوب مرتبطة بالنت قاعات افتراضية
تجهيزات أخرى (تبعاً لطبيعة التخصص)	لا يوجد

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	أعضاء هيئة التدريس، الطالب، إدارة القسم، لجنة الجودة	غير مباشر (الاستبانات)

مجالات التقويم	المقيمون	طرق التقييم
فاعلية طرق تقييم الطالب	المراجع النظير	مراجعة عينات عشـــوائية من أوراق إجابات الطلاب
مدى تحصيل مخرجات التعلم	قيادات البرنامج	تقييم 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	مجلس القسم
رقم الجلسة	
تاريخ الجلسة	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Engineering Analysis (2)**
Course Code:	**COE2105**
Program:	**Bachelor of Science in Construction Engineering**
Department:	**Construction Engineering Department**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 4 (4+0)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 5 / Year 2
4. Pre-requisites for this course (if any)**: Engineering Analysis (1) IE2201**
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**	✓	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description Basic concepts of ordinary differential equations, general and particular solutions, initial and boundary conditions, linear and nonlinear differential equations, solution of first and second order differential equations and their applications, higher order differential equations, theory of operators and applications, introduction to partial differential equations.
2. Course Main Objective The main purpose of this course is to prepare students to know the types of differential equations, recognize the basic notions linear and nonlinear differential equations, ordinary and partial differential equations, solve partial differential equations (especially heat and wave) with applications to engineering problems, set-up systems of linear differential

equations using characteristic equations, and apply Fourier series to periodic functions and test convergence series to periodic
functions and test convergence..

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	know the types of differential equations	K1
1.2	recognize the basic notions linear and nonlinear differential equations, ordinary and partial differential equations	K2
1.3	set-up systems of linear differential equations using characteristic equations	K2
2	**Skills :**	
2.1	apply Fourier series to periodic functions and test convergence series to periodic functions and test convergence.	S1
2.2	solve partial differential equations (especially heat and wave) with applications to engineering problems.	S3
3	**Values:**	
	N/A	

C. Course Content

No	List of Topics	Contact Hours
1	Unit 1: Introduction to differential equations	6
2	Unit 2: First order differential equations	6
3	Unit 3: Second order linear differential equations	4
4	Unit 4: Laplace Transform	8
5	Unit 5: Systems of two linear differential equations.	4
6	Unit 6: Nonlinear differential equations and stability	6
7	Unit 7: Introduction to partial differential equations & its applications	6
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	know the types of differential equations	Interactive and independent learning	Quiz 1, midterm, Assignments (1,2,3,4,5) & final
1.2	recognize the basic notions linear and nonlinear differential equations, ordinary and partial differential equations		
1.3	set-up systems of linear differential equations using characteristic equations		
2.0	**Skills**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.1	apply Fourier series to periodic functions and test convergence series to periodic functions and test convergence.	Interactive learning Independent learning	Quiz 2, assignments (6,7), midterm & final
2.2	solve partial differential equations (especially heat and wave) with applications to engineering problems.		
3.0	**Values**		
	NA		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Quiz 1	4	10%
2	Assignments	2,4,5,7,9,10	10%
3	Mid-term	5	20%
4	Quiz 2	9	10%
5	Final Exam	11	50%

***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 :

- Office hours 1 hr/week; students can go in times of office hours for teacher to explain what could not be understood from the lesson.
- Students can communicate with a staff member outside the official working hours by email.
- Students are also encouraged to visit their academic advisors.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Elementary Differential Equations", W.E. Boyce and R.C. Diprima: 9th edition, John Wiley & Sons, 2011.
Essential References Materials	None
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation	Lecture rooms with a capacity of at least 25 students and fitted with multimedia projector and a computer.

Item	Resources
(Classrooms, laboratories, demonstration rooms/labs, etc.)	
Technology Resources (AV, data show, Smart Board, software, etc.)	None
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching and assessment as per QMS-Policy- Feedback Survey, QMS- Monitoring Students' Satisfaction	Students	Indirect: Analyzing the results of the following surveys Course Evaluation Survey(CES), Program Evaluation Survey (PES), Student Experience Survey (SES)
Quality of Exam papers and Verifying Standards of Student Achievement as per QMS-Policy- Policy for Examinations and Marking, QMS- Procedure for Marking Examinations	Faculty	Direct: Course Report
Implementation of the action plans based on previous semester as per QMS-Policy- Course Review, QMS-Procedure for Course Review, QMS-Procedure for Curriculum Review	Faculty	Direct and Indirect: Course Report
Monitoring Teaching and Learning as per QMS-Policy- Monitoring of Teaching and Learning	Chairperson/Program Director/Course Director	Indirect: Feedback by Chairperson/Program director/Course director. Program Delivery Record.
Effectiveness of planned Teaching Strategies QMS-Policy- Course Review	Faculty	Indirect: Course Report
Course effectiveness and planning for improvement as per QMS-Policy- Course Review, QMS-Procedure for Course Review, QMS- Procedure	Faculty	Direct and Indirect: Course report

Evaluation Areas/Issues	Evaluators	Evaluation Methods
for Curriculum Review		
Verifying Standards of Student Achievement and Quality of Exam papers as per QMS- External Assessment Review	Assessment External Reviewer	Direct: Report of assessment external reviewer. Review of sample of 10% of student's assessments and coursework scripts.

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	Construction Engineering Council
Reference No.	
Date	2022

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Fundamentals of Electrical Engineering**
Course Code:	**IE2203**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura university**

Table of Contents

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: Fifth Semester /Second Year
4. Pre-requisites for this course (if any)**: Physics (2) for Engineering**
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**	50	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

This course covers basic circuit elements and concepts; Basic laws of circuit theory: Ohm's law, Kirchoff's law; Circuit theorems: superposition principle, Thevenin and Norton theorems; maximum power transfer theorem Techniques of circuit analysis: Nodal and mesh analysis; Sinusoidal sources and the concept of phasor in circuit analysis; Introduction to concept of average, reactive, complex power and power factor.

2. Course Main Objective

1. What is the main purpose for this course?
   - Provides students with the essential knowledge and understanding of the fundamental principles of electronic circuits.
   - Provides students with a broad and balanced foundation of electronic knowledge
   - Develops in students the ability to apply their electronic knowledge and skills to the solution of theoretical and practical problems in electronics.
   - To encourage students to read and appreciate the current literature in the area of electronic circuits.
   - Generates in students an appreciation of the importance of electronic circuits in an industrial, economic, environmental and social context.
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):
   - Post the course material on the website that could be accessed by students after registration.
   - Utilizing various internet resources that offer informative details to support the lecture course material.
   - Tutorial, reading assignments and relevant research papers using university online library will be considered to enrich the scope of the course.
   - Increasing the use of IT or web-based reference material.
   - Working on updating the objectives of the course and the scientific content as required.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Demonstrate the role of individual in the team to achieve task completion.	K1
1.2	Attribute the basic concepts of electrical quantities by using basic circuit laws (Ohm's law and Kirchhoff's law) and simplification of resistive circuits.	K2
1.3	Analyze DC circuit problems using circuit theorem, nodal analysis and mesh analysis.	K2
1.4	Attribute the basic concepts of capacitance and inductance and analyze the characteristic of natural and step response in first order circuits.	K2
2	**Skills:**	
2.1	Solve problems using discussion, Lessons, examples and illustrations to demonstrate the difference among topics.	S1
2.2	Given a simple rectangular or circular cylindrical solid with resistivity, compute the resistance from end to end.	S2
2.3	Distinguish between electronics and semiconductors.	S4
2.4	Directing the student to self-learning and greater knowledge in the field of course.	S4
2.5	Work independently and as part of a team.	S5
2.6	Develop the scientific language skills.	S5
2.7	Develop communication skills with others via websites or e-mail.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Current, voltage and resistance.	1
2	Ohm’s law, power and energy calculations.	3
3	Kirchhoff’s current and voltage laws in series/parallel DC circuit analysis.	3
4	Mesh, nodal analysis and source transformation.	2
5	Superposition, Thevenin, Norton and maximum power transfer theorems.	2
6	Sinusoidal Alternating Waveforms and phasor representation.	3
7	Series, Parallel and Series/Parallel AC circuits	3
8	Analog circuits	3
Total		20

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 current, voltage and resistance.	• Lectures • Homework • Assignments • Exam & Quizzes	• short quizzes • homework assigned questions, and evaluation • midterm exam Final examination
1.2	Ohm's law, power and energy calculations.		
1.3	Describe Kirchhoff's current and voltage laws in series/parallel DC circuit analysis.		
2.0	**Skills**		
2.1	Calculate Mesh, nodal analysis and source transformation.	• Lectures • Tutorials are used to explain further the workshop • Engage students in classroom interaction with making practice Tutorial Classes. • Participation of students in classroom discussion • Tutorial Classes. • Participation of students in classroom discussion • Using online library and internet in searching for literature paper related to the subject • Communicate with other students as well as other faculty members.	• Homework • Assignments Exams and quizzes • Class attendance of students at the beginning of the lecture is recorded. Oral presentations on related topics will be held in class weekly
2.2	Summarize Superposition, Thevenin, Norton and maximum power transfer theorems.		
2.3	Explain Sinusoidal Alternating Waveforms and phasor representation.		
2.4	Directing the student to self-learning and greater knowledge in the field of course		
2.5	Work independently and as part of a team.		
2.6	Develop the scientific language skills		
2.7	Develop communication skills with others via websites or e-mail		
2.8			
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5^{th}-5^{th} Weeks	25%
2	Homework assignments	Continuous Assessment	20%
3	Quiz	Continuous Assessment	15%
4	Final Exam	12^{th} Week	40%
5			
6			
7			
8			

***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. 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):

- Students can approach during the office hours for the faculty member to ask questions to clarify some points missed during the lecture.
- Students can communicate with the teaching staff through the website and ask questions related to all aspects of the lesson.
- The students will get written answers as soon as possible
- The teaching staffs are available during all day, where they are ready to clarify any points related to the course.

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Electrical circuits (Theory and Applications), John Bird, Revised second edition (2003)	
Essential References Materials	N/A	
Electronic Materials	Lecture material in PPT, http://www.animations.physics.unsw.edu.au/jw/AC.html http://hyperphysics.phy-astr.gsu.edu/hbase/solids/sselcn.html	
Other Learning Materials	Virtual simulation software's are used, The Art of Electronics, by Horowitz and Hill Cambridge Press	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

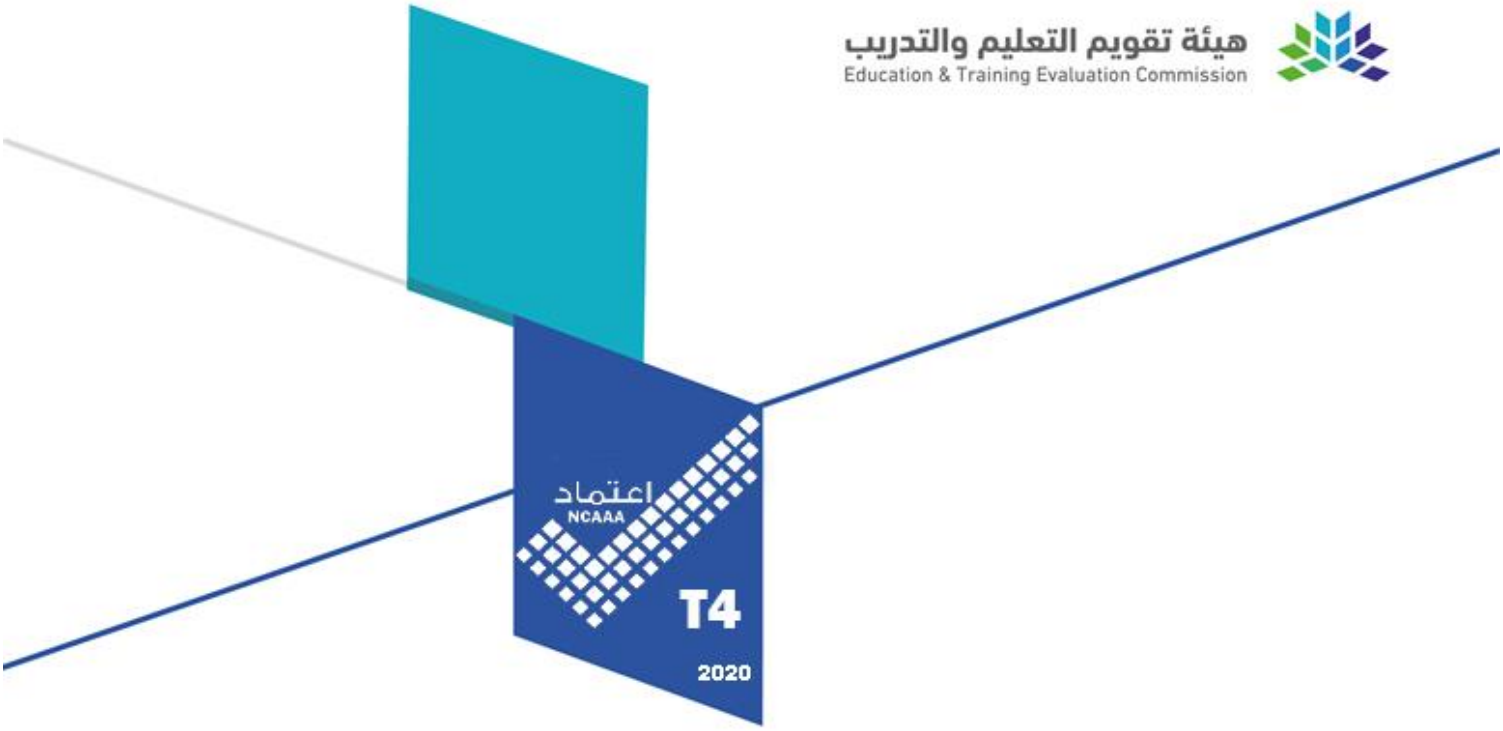
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department • Instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Dynamics**
Course Code:	**IE2301**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifth Semester / Second Year
4. Pre-requisites for this course (if any)**: Statics**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

The course covers planar kinematics of rigid bodies, relative motion analysis of velocity and acceleration, planar kinetics of rigid bodies: force and acceleration, work and energy methods. The course also includes an introduction to free vibrations: harmonic motion, viscous damping, response to harmonic excitation of un-damped and damped systems, and an introduction to forced vibrations.

2. Course Main Objective

By the completion of the course, the student should be able to:

1.1

1.1 Know the fundamentals of engineering dynamics.

1.2 Apply techniques for formulating engineering dynamics system.

1.3 Solve dynamics problems with emphasis on using an integrated and just-in-time teaching strategy.

1.4 Develop the ability to model and analyze the motion of rigid bodies subjected to external forces and moments.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Know the fundamentals of engineering dynamics and vibrations	K2
1.2		
1.3		
1...		
2	**Skills:**	
2.1	Apply techniques for formulating engineering dynamics system.	S2
2.2	Solve dynamics problems with emphasis on using an integrated and just-in-time teaching strategy.	S3
2.3	Compete in the workplace through cooperative group works and more computer-based teaching and learning.	S3
2.4	Model and analyze motion of rigid bodies subjected to external forces and moments.	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Mass-Spring-Damper: undammed free vibrations, under- critically- and over-damped free vibrations, amplification factor and phase angle for forced vibrations, resonance.	4
2	Review of Kinematics: basic kinematic equation, coordinate systems	4
3	Numerical Integration: Euler , Runge-Kutta, MATLAB ode toolbox	4
4	Review of Particle Dynamics: free body diagrams; kinematics; Newton's laws; equations of motion, integrals of motion; conservation of linear and angular momentum, conservation of total mechanical energy, principles of linear/angular impulse and momentum, principles of work and kinetic energy, orbital mechanics	5
5	Systems of Particles: Newton's and Euler's laws	4
6	Rigid Body Dynamics: degrees of freedom, moments and products of inertia, inertia matrix and coordinate transformations, principal axes and principal moments of inertia, Euler's theorem.	5
7	Euler Angles: sequences, angular velocities in terms of Euler angles, free motion of an axisymmetric rigid body, body and space cone	4
...		
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	Know the fundamentals of engineering dynamics and vibrations	• Lectures • Homework • Assignments • Lab Reports	• Mid and Final exams • Monthly quizzes • Evaluated homework • Team project presentation • Lab Reports • Final Lab Exam
1.2			
…			
2.0	**Skills**		
2.1	Apply techniques for formulating engineering dynamics system.	• Lectures • Homework • Assignments • Lab Reports	• Mid and Final exams • Monthly quizzes • Evaluated homework • Team project presentation • Lab Reports • Final Lab Exam
2.2	Solve dynamics problems with emphasis on using an integrated and just-in-time teaching strategy.		
2.3	Compete in the workplace through cooperative group works and more computer-based teaching and learning.		
2.4	Model and analyze motion of rigid bodies subjected to external forces and moments.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Reports, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Reports, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5^{th}-7^{th} Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
4	Lab	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	Dynamics and Vibration: An Introduction by Magd Abdel Wahab.
Essential References Materials	None
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Materials Science**
Course Code:	**IE2302**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifth Semester /Second year
4. Pre-requisites for this course (if any)**: Chemistry (2) for Engineering**
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**	50	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

The course covers atomic structure and bonding, structure of materials (metal, polymer, ceramics, and composites), elastic and plastic deformation, solution hardening, dispersion hardening, introduction to phase diagrams, ferrous and nonferrous metals (steel, cast iron, aluminum and copper), and an introduction to advanced materials.

Engineering Materials Lab.

The lab includes experiments on tensile, hardness, fatigue, impact, and creep tests, macro and micro-examination of materials, effect of cold working and heat treatment on metals, hardening and tempering of steel, Carburizing of low carbon steel.

2. Course Main Objective

1. What is the main purpose for this course?

- Understand the concepts of atomic bonding, crystal structures, imperfections, diffusion, mechanical properties, electron energy, and dislocations as related to processing and performance of engineering materials.
- Understand the relationship between structure, processing and properties for selection of existing materials and development of new materials in the design of parts, structures, and devices.
- Understand the microstructure characteristics, electronic properties, materials formation, and manipulation of microstructure for application in engineering design and materials processing.
- Understand the relations between the composition, temperature and phase fractions applied to equilibrium phase diagrams for given material systems

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

- Web based reference material
- Changes in content as a result of new research in the field

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of Engineering Materials	K2
1.2	Comprehend the different types of crystal structures	K2
1.3		
1...		
2	**Skills:**	
2.1	Understand the basic principles and mechanical properties	S1
2.2	Understand the different types of imperfections.	S1
2.3	Explore the advanced features of processing and performance of engineering materials	S1
2.4	Understand the types of diffusion.	S1
2.5	Understand the materials formation	S1
2.6	Understand the basic principles of equilibrium phase diagrams	S1
2.7	Explain/ Use the working principles of different types of dislocations of particles.	S2
2.8	Explain the methods of the composition, temperature and phase fractions applied to equilibrium phase diagrams	S2
2.9	Explain the working principles of processing and properties for selection of existing materials	S2
2.10	Analyze and solve a real-life problem for term project with a team	S3
2.11	Student will take the responsibility to write a given program on their own and submit on time	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction	1
2	Atomic Structure and Interatomic Bonding	2
3	The Structure of Crystalline Solids	2
4	Imperfections in Solids & Diffusion	2
5	Metals - Mechanical Properties	2
6	Metals – Dislocations	2
7	Failure	1
8	Phase Diagrams	2
9	Phase Transformations in Metals	2
10	Metal Processing	2
11	Ceramic Materials and Processing	2
Total		20

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	Develop the knowledge of Engineering Materials	• Lectures • Homework • Assignments • Exam & Quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
1.2	Comprehend the different types of crystal structures		
…			
2.0	**Skills**		
2.1	Understand the basic principles and mechanical properties	• Lectures are followed by numerous Engineering materials • Tutorials are used to explain further the equilibrium phase diagrams • Engage students in classroom interaction with making practice • Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific factory	• Assignments &Homework's • Quizzes & Exams • Recording of submission of assignment and put grades • Class attendance of students at the beginning of the lecture is recorded.
2.2	Understand the different types of imperfections.		
2.3	Explore the advanced features of processing and performance of engineering materials		
2.4	Understand the types of diffusion.		
2.5	Understand the materials formation		
2.6	Explain/ Use the working principles of different types of dislocations of particles.		
2.7	Explain the methods of the composition, temperature and phase fractions applied to equilibrium phase diagrams		
2.8	Understand the basic principles of equilibrium phase diagrams		
2.9	Explain the working principles of processing and properties for selection of existing materials		
2.10	Analyze and solve a real-life problem for term project with a team		
2.11	Student will take the responsibility to write a given program on their own and submit on time		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	25%
3	Quizes	Continuous Assessment	10%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Fundamentals of Materials Science and Engineering, An Integrated Approach, by: William D. Callister & David G. Rethwisch, 3rd Edition, John Wiley, 2008.
Essential References Materials	N/A
Electronic Materials	Lecture material in PPT
Other Learning Materials	Material Science & Engineering : R.K. Rajput, Edition : Reprint 2014, Media : Paper Back ISBN : 9788185749686, JBA Book Code : 96907.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture room capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

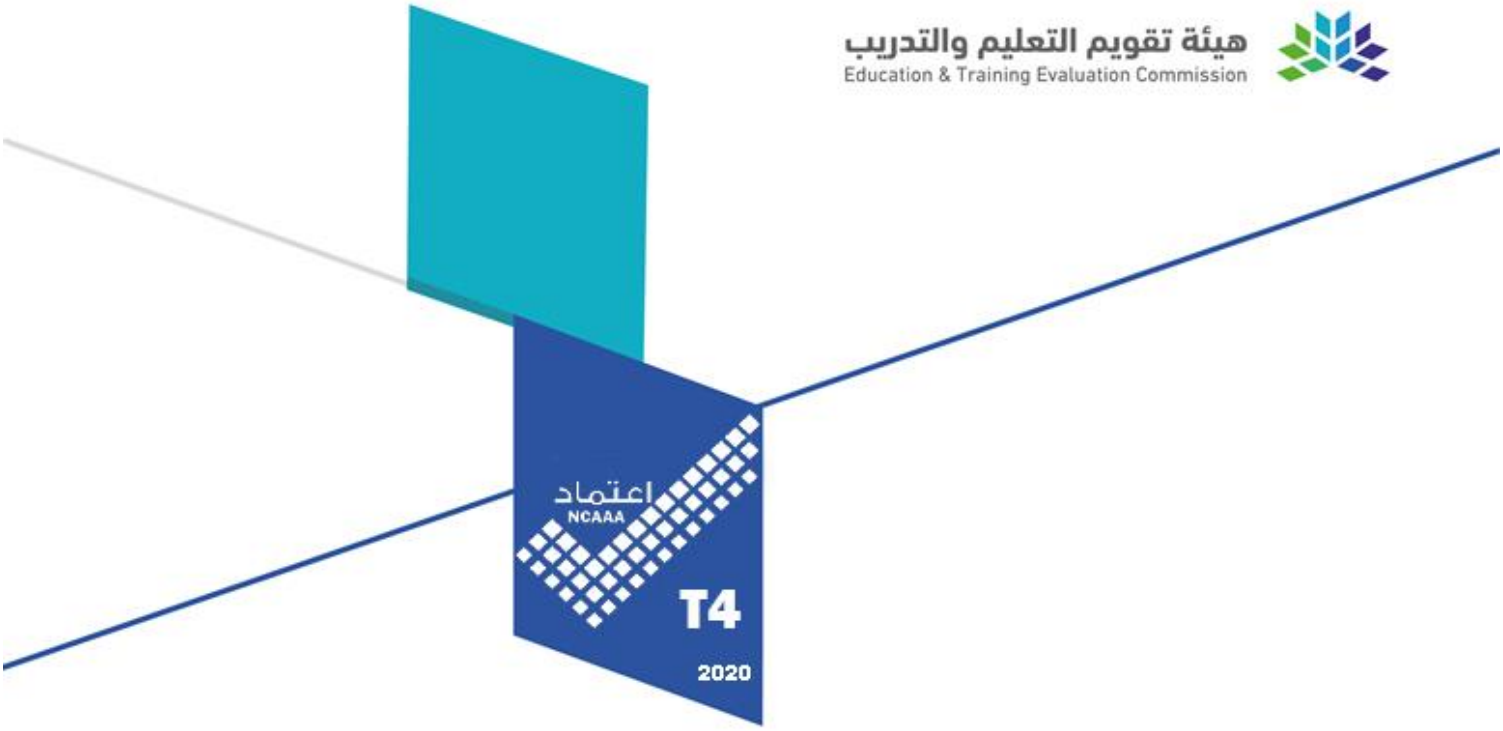
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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 Industrial Engineering**
Course Code:	**IE2202**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 2
2. Course type **a.** University ☐ College ☐ Department ☑ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Fifth Semester / Second Year
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**	20	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	20

B. Course Objectives and Learning Outcomes

1. Course Description

Introduction to engineering design, the design process, defining the client design problem, IE functions and requirements, generating and evaluating design alternatives, an introduction to an overview of the profession, including career planning, professionalism and communication, ethics, teamwork, industry site visits, industrial speakers, engineering design process and selected solution methods for problems in coordination and planning

2. Course Main Objective

1. What is the main purpose for this course?

Following this course, a student should be able to:

- Know the NSPE Code of ethics and apply the code of ethics to ethical dilemmas
- Identify and industrial engineering problems
- Apply industrial engineering problem-solving techniques to problems
- Know the various areas in which industrial engineers work

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

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Know the NSPE Code of ethics and apply the code of ethics to ethical dilemmas	K1
1.2	Know the various areas in which industrial engineers work	K2
1.3		
1...		
2	**Skills:**	
2.1	Understand the basic principles and techniques of Industrial engineering	S1
2.2	Understand the different techniques used for problem solving.	S1
2.3	Analyze & solve a real-life problem for Term project with a team.	S2
2.4	Write a technical report	S5
2.5	Improve communication skills with industry for applying professional ethics	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		

CLOs		Aligned PLOs
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Industrial Engineering Profession	1
2	Overview of the UCF IEMS Department	2
3	Professionalism and Ethics	2
4	Technical Writing and Communication	2
5	Productive Systems Design: Methods Engineering and Human Factors	2
6	Productive Systems Design: Facility Planning and Design	2
7	Productive Systems Control: Operations Planning and Control	3
8	Productive Systems Control: Quality Control and Total Quality Management	3
9	Systems Thinking	3
Total		20

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	Know the NSPE Code of ethics and apply the code of ethics to ethical dilemmas	• Lectures • Homework • Assignments • Exam & Quizzes	• Tested by giving them two exams and two quizzes • Given homework assignments
1.2	Explain the function of CAD commands in drawing		
1.3	Create 2D and 3D drawings, construct and Interpret views and sectional views		
1.4	Create 2D and 3D drawings using CAD commands		
2.0	**Skills**		
2.1	Understand the basic principles and techniques of Industrial engineering	• Lectures are followed by numerous examples • Tutorials are used to explain different techniques used for problem solving. • Engage students in classroom interaction with making practice • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific organization	• Homework • Assignments • Exams & Quizzes • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades
2.2	Understand the different techniques used for problem solving.		
2.3	Analyze & solve a real-life problem for Term project with a team.		
2.4	Student will take the responsibility to write a technical report		
2.5	Improve communication skills with industry for applying professional ethics		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	judgements in engineering practice based on legal and ethical principles		
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Team Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer
   - Factory Trip

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	W.C. Turner, J.H. Mize, K.E. Case and J.W. Nazemetz, Introduction to Industrial Engineering and Systems Engineering, 3rd Edition, Prentice Hall, Upper Saddle River, NJ, 1993.
Essential References Materials	Robert Wayne Atkins P.E., Introduction to Industrial and Systems Engineering, 2019, Grandpappy, Inc.
Electronic Materials	• Lecture material in PPT
Other Learning Materials	• Hicks, P.E., 1994, "Industrial Engineering and Management: a New Perspective", McGraw-Hill, Inc. • L. Finkelstein, Jr., Pocket Book of Technical Writing for Engineers and Scientists, 3rd edition, McGraw-Hill, New York, NY, 2008.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Peer to peer Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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

توصيف المقرر الدراسي

اسم المقرر:	الكتابة والتحرير العربي
رمز المقرر:	ARS1601
البرنامج:	يقدم لجميع طلبة الجامعة
القسم العلمي:	قسم اللغة والنحو والصرف
الكلية:	اللغة العربية وآدابها
المؤسسة:	جامعة أم القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: 2 ساعة
2. نوع المقرر أ. متطلب جامعة ☑ متطلب كلية ☐ متطلب قسم ☐ أخرى ☐ ب. إجباري ☑ اختياري ☐
3. السنة / المستوى الذي يقدم فيه المقرر: العام الأول
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		
4	التعليم عن بعد	20	%100
5	أخرى		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	20
2	معمل أو إستوديو	-
3	دروس إضافية	-
4	أخرى (تذكر) الساعات المكتبية	-
	الإجمالي	20

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

هذا المقرر أحد متطلبات جامعة أم القرى يدرسه جميع طلبة الجامعة وهو أحد مقررات الهوية العربية للجامعة ولطلبتها التي تحرص الجامعة على إبرازها ضمن رؤيتها ونقاط تميزها بين الجامعات.

2. الهدف الرئيس للمقرر

يهدف هذا المقرر إلى تمكين الطلبة من مهارات الكتابة اللغوية السليمة، مستعملين قواعد الرسم وعلامات الترقيم، ومتمكّنين من قواعد اللغة والصرف والنحو والمعجم، ومعبّرين تعبيرًا صحيحًا، مع قوّة الإقناع وغزارة الألفاظ، متجنّبين الأخطاء اللغويّة الشائعة، كما يمكّنهم من مهارات القراءة والفهم واستيعاب المقروء وتلخيصه.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	المعرفة والفهم	
1.1	أن يذكر الطلبة القواعد الأساسية للجملتين الاسمية والفعلية ورسم ألف الوصل والقطع والهمزة المتوسطة والمتطرفة، وعلامات الترقيم. وأنواع الكتابة الوظيفية والإقناعية.	
1.2	أن يحدد الطلبة أنواع القراءة وخصائص كل منها وأشكال الخطأ اللغوي الشائعة حسب المستوى الصوتي والصرفي والتركيبي والمعجمي.	
2	المهارات	
2.1	أن يقارن الطلبة بين الأنماط الوظيفية مثل المقالة والتقرير والتلخيص والسيرة الذاتية والمذكرات.	
2.2	أن يصوب الطلبة كتابة وقراءة الأخطاء اللغوية من خلال نصوص لغوية مختارة.	
3	القيم	

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
3.1	أن يظهر الطلبة القدرة على العمل مع زملائه ضمن فريق عمل لتصويب نصوص لغوية	
3.2	أن يتعاون الطلبة فيما بينهم لأداء عرض تمثيلي حواري يظهر مهارتهم على استعمال اللغة صحيحة.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	أهمّيّة السّلامة اللّغويّة في كتابتنا، التمكّن من قواعد الرّسم الكتابيّ (الهمزة – الألف المتطرّفة) – علامات الترقيم، كتابة الأعداد بالحروف.	2
2	التعبير الصحيح في الكتابة للتعبير عن العدد والجنس والتعريف والتنكير والفاعلية والمفعولية والتكثير والمبالغة.	2
3	اتّقان تركيب الجملة العربيّة (أنواع الجمل – سمات الجملة الصّحيحة – القواعد الوظيفيّة- أدوات الرّبط).	2
4	تجويد الأساليب الكتابيّة: (مثل: الأمر – النّهي – النّفي - التّوكيد – النّداء – الاستفهام ...)	2
5	تنمية الثّروة اللّفظيّة وتوظيفها في الكتابة – الإفادة من المعجم العربيّ بنوعيه (المعاني والألفاظ)	2
6	الأخطاء الكتابيّة الشّائعة (إملائيّة – صرفيّة – نحويّة – أسلوبيّة)	2
7	الكتابة الوظيفية، وأنواعها: (الطلبات الإدارية، السيرة الذاتية، التقرير، الموجز التفصيلي، محضر الاجتماع) مع نماذج تطبيقيّة.	2
8	اختبار دوري تطبيقي: ضبط نصوص لغوية وإعادة كتابتها مضبوطة بالشكل مع استخدام علامات الترقيم المناسبة.	2
9	أنواع القراءة وأهمية كل نوع منها. ومهارة القراءة الجهرية وتمييز الأخطاء من خلال قراءة نصوص مختارة.	2
10	مهارة الفهم وتلخيص المقروء من خلال نماذج تطبيقية من نصوص مختارة.	2
	المجموع	20

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	أن يذكر الطلبة القواعد الأساسية للجملتين الاسمية والفعلية ورسم ألف الوصل والقطع والهمزة المتوسطة والمتطرفة، وعلامات الترقيم. وأنواع الكتابة الوظيفية والإقناعية.	المحاضرة مع النماذج التطبيقية	المناقشة والحوار
1.2	أن يحدد الطلبة أنواع القراءة وخصائص كل منها وأشكال الخطأ اللغوي الشائعة حسب المستوى الصوتي والصرفي والتركيبي والمعجمي.	المناقشة والتحليل وتصميم الخرائط المفاهيمية	الاختبار النهائي
2	المهارات		
2.1	أن يقارن الطلبة بين الأنماط الوظيفية مثل المقالة والتقرير والتلخيص والسيرة الذاتية والمذكرات.	المحاضرة والتكليفات	تكليفات وواجبات
2.2	أن يصوب الطلبة كتابة وقراءة الأخطاء اللغوية من خلال نصوص لغوية مختارة.	التكليفات مع الحوار والمناقشة	الحوار والمناقشة
3	القيم		
3.1	أن يظهر الطلبة القدرة على العمل مع زملائه ضمن فريق عمل لتصويب نصوص لغوية	التعلم التعاوني	الملاحظة والاستماع
3.2	أن يتعاون الطلبة فيما بينهم لأداء عرض تمثيلي حواري يظهر مهارتهم على استعمال اللغة صحيحة.	التعلم التعاوني	الملاحظة والحوار مع تصميم بطاقة ملاحظة للتقويم

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	الاختبار النصفي	السادس	10
2	الاختبار الدوري التطبيقي	الثامن	5
3	الواجبات والأنشطة الصفية (مثل الملخصات- التقارير- نماذج من التكليفات)	على مدار الفصل	5
4	الاختبار النهائي		60
	الإجمالي		100% من الدرجة الكلية

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

أ- تشجيع الطلبة على التواصل مع عضو هيئة التدريس في مكتبه، وعبر الإنترنت للإجابة عن استفساراتهم، والمشاكل التي تعترض سبيل استيعابهم للمقرر.

ج- تخصيص ساعات إضافية لمساعدة الضعيف من الطلبة، ورعاية الموهوبين منهم.

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	المساعد في المهارات اللغوية أ.د/ رياض الخوام.
المراجع المساندة	-فن التحرير العربي ضوابطه وأنماطه. د/ محمد صالح الشنطي. - فنون الكتابة ومهارات التحرير العربي. د/ كمال زعفر علي. -فن الكتابة والتعبير. د/ محمد علي أبو حمدة. - أساسيات التحرير وفن الكتابة بالعربية، د/ حسين المناصرة ورفيقيه. - معجم الأخطاء الشائعة، محمد العدناني. - معجم أخطاء الكتَّاب، صلاح الدين الزعبلاوي. - قل ولا تقل، مصطفى جواد. - نحو إتقان الكتابة العلمية باللغة العربية، لمكي الحسني. -أخطاء الكتّاب والإذاعيين، أحمد مختارعمر. -معجم الأغلاط اللغوية المعاصرة، للعدناني - دليل الأخطاء الشائعة في الكتابة والنطق، لمروان البوَّاب التحرير العربي، د/ أحمد شوقي رضوان، ود/ عثمان بن صالح القريح.
المصادر الإلكترونية	موقع مكتبة الملك عبد الله الجامعية
أخرى	الأقراص المدمجة

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	لا يوجد
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	برنامج البلاك بورد

العناصر	متطلبات المقرر
تجهيزات أخرى (تبعاً لطبيعة التخصص)	لا يوجد

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية استراتيجيات التدريس المستخدمة	النظير الطلبة	(مباشر) (غير مباشر)
فاعلية آلية تقييم الطلبة	النظير	(مباشر)
كفاية مصادر التعلم	أستاذ المقرر الطلبة	(مباشر) (غير مباشر)
مصداقية الاختبار وموضوعيته	نظير من نفس التخصص لجنة فحص أسئلة الاختبار	(مباشر) (غير مباشر)
مدى تحقق مخرجات التعلم للمقرر	أستاذ المقرر – قيادة البرنامج الطلبة	(مباشر) (غير مباشر)

مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلبة، 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	رئيس القسم. د أسامة بن أحمد السلمي
رقم الجلسة	
تاريخ الجلسة	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Engineering Statistics and Probability**
Course Code:	**IE2401**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Sixth Semester / Second Year
4. Pre-requisites for this course (if any)**: Calculus (3) for Engineering**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The role of statistics in engineering, discrete random variables and probability distributions, descriptive statistics, statistical intervals, sampling distributions, sampling distributions, experimental design, regression analysis, computer applications.

2. Course Main Objective

By the completion of the course, students should be able to:
1.1 Recognize the basic probability concepts
1.2 Use knowledge of statistic and probability in solving, designing and process control of engineering systems.
1.3 Communicate effectively using statistical and probability techniques and information.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize the basic of statistics probability concepts.	K2
1.2		
1.3		
1...		
2	**Skills:**	
2.1	Use knowledge of statistic and probability in solving, designing and process control of engineering systems.	S1
2.2	Identify statistical tests on real-life problems	S1
2.3	Apply statistical techniques	S2
2.4	Communicate effectively using statistical and probability techniques and information.	S5
2...		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Descriptive measures and calculations	5
2	Basic Probability Concepts	6
3	Elementary theorems	3
4	Conditional probability	6
5	Binomial distributions	3
6	Normal, uniform and distributions	5
7	Sampling Distribution	3
8	Central limit theorem	3
9	Correlation and regression analysis	6
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	Recognize the basic probability concepts.	• Lectures • Homework • Assignments Exams and quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
1.2			
…			
2.0	**Skills**		
2.1	Use knowledge of statistic and probability in solving, designing and process control of engineering systems.	• Lectures • Homework • Assignments Exams and quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
2.2	Use knowledge of statistic and probability in solving, designing and process control of engineering systems.		
2.3	Communicate effectively using statistical and probability techniques and information.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline		
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles		
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quizes	Continuous Assessment	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard
- Tutoring

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	"Mathematical Statistics and Data Analysis", John A. Rice, 2nd Edition, Duxbury Press, .2010
Essential References Materials	Ronald E. Walpole, Raymond H. Myers, Sharon L. Myers, Keying E. Ye, Probability and Statistics for Engineers and Scientists, 9th Edition, Pearson Prince Hall
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Engineering Numerical Methods**
Course Code:	**COE2106**
Program:	**Bachelor of Construction Engineering**
Department:	**Construction Engineering Department**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 4 (3+1)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level/ 6/ Year 2
4. Pre-requisites for this course (if any)**: Engineering Analysis (1) IE2201**
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**	30	50%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other (Lab)**	30	50%

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

This course offers an introduction to numerical methods. Topics include curve fitting, roots of equations, integration, and solution of ordinary differential equations. Numerical techniques are presented in the context of engineering applications, and example problems are solved using a variety of computer-based tools (structure programming, and computational processing software).

2. Course Main Objective

The main purpose of this course is to enable the students to acquire the knowledge of a range of numerical methods and their application in solving engineering problems.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	**Recognize** the fundamental algorithms in numerical mathematics.	K1
2	**Skills :**	
2.1	**Evaluate** and **Analyze** the error associated with the use of numerical solutions.	S1
2.2	**Identify** and **apply** the appropriate numerical method for a wide range of engineering problems and interpret numerical results	S3
2.3	**Solve** basis engineering problems by using numerical methods and implementing numerical algorithms efficiently in a suitable software.	S4
3	**Values:**	
	N/A	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to numerical methods, accuracy, errors.	3
2	Numerical Differentiation	2
3	Interpolation and extrapolation	6
4	Regression	3
5	Numerical integration;	4
6	Numerical solution of non-linear equations	6
7	Numerical solution of initial value problems	6
8	**List of Topics for Lab :** Using MATLAB. Numerical solution of linear equations. Fitting and regression. Programming and implementing algorithms for differentiation, integration, non-linear equation, initial value problems.	30
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 fundamental algorithms in numerical mathematics.	PowerPoint presentation, Discussion, Review and Assignments	Home Work Assignments, Quizzes
2.0	**Skills**		
2.1	**Evaluate** and **Analyze** the error associated with the use of numerical solutions.	PowerPoint presentation, Discussion, Review and Assignments	Home Work Assignments, Quizzes, Midterm and Final exams
2.2	**Identify** and **apply** the appropriate numerical method for a wide range of engineering problems and interpret numerical results	PowerPoint presentation, Discussion, Review and Assignments	Home Work Assignments, Quizzes, Midterm and Final exams

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.3	**Solve** basis engineering problems by using numerical methods and implementing numerical algorithms efficiently in a suitable software.	Computer lab.	Lab reports, Lab exam
3.0	**Values**		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Homework	Every two weeks	10%
2	Quizzes	Every two weeks	10%
3	Lab reports	Every week	10%
4	Midterm Exam	Week 5	20%
5	Lab. Final Exam	Week 10	10%
6	Final Exam	Week 11	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 :

Faculty and teaching staff are available for individual student consultations and academic advice via one or more of the following:

- Umm Al-Qura University official email
- Umm Al-Qura University LMS (Learning Management System)
- Office hours
- Class help sessions by teachers assistants
- Student academic advisor (assigned to each student by the college committee)

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Title: Applied Numerical Methods with MATLAB for Engineers and Scientists Author: Steven C. Chapra Publication date and edition: 2021, 4th Edition (Hoboken, NJ : Wiley) ISBN number: 978-0-07-339796-2
Essential References Materials	Title: An introduction to numerical methods and analysis Author: James F Epperson Publication date and edition: 2016, 3rd Edition (CUP - Cambridge University Press) ISBN number: 978-1119604693
Electronic Materials	• Electronic materials of the required textbook and its PowerPoints slides • Umm Al-Qura LMS related contents

Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom with minimum capacity of 30 students • Computer Lab with minimum 15 machines
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show projector • Computer compatible with projector • Microsoft office (word, Excel and PowerPoint). • MATLAB software.
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	None

G. Course Quality Evaluation

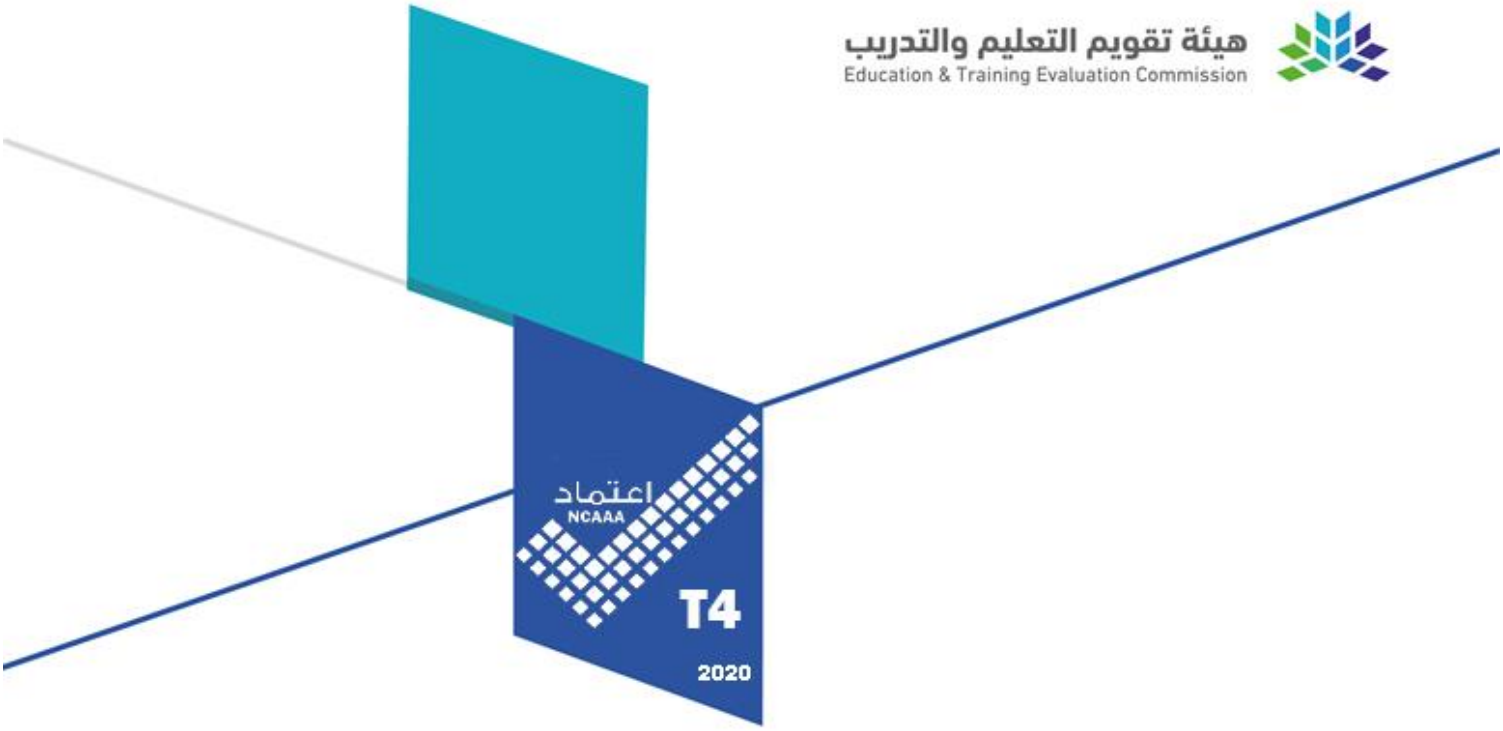
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of teaching	Students	Electronic survey
Effectiveness of assessment	Faculty members	Final and midterms tests check sampling with CLO vs PLO matrix
Quality of learning resources	Students and faculty members	Electronic survey
Administration performance	Dean and admin vice dean	Employee appraisal
Achievement of CLOs	College quality committee	Course 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:	**Engineering Measurements**
Course Code:	**IE2303**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Sixth Semester / Second Year
4. Pre-requisites for this course (if any)**: Fundamentals of Electrical Engineering**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

Errors, linear, angular and contour measurements. Fits and tolerances: interchangeability, ISO shaft and hole systems of fits and tolerances. Thread metrology, Gear metrology; surface texture, out of roundness and flatness measurements. Basic electrical measurements and sensing devices DC, AC bridge, and measuring systems, transducers, smart sensors and transmitters. Force, torque and strain measurements, design of load cells.

2. Course Main Objective

1. What is the main purpose for this course?

At the end of the course the students will be able to:

- Understand Metrology principles of linear and angular measurement
- Understand the principles and operation of precision measurement tools and equipment used in modern manufacturing
- Understand the fundamentals of error analysis and uncertainty
- Measuring instrumentation selection according to defect criterion expected
- Learn how to analyze data and make engineering conclusion
- Understand the fundamentals of inspection methods and systems
- Understand the fundamentals of modem quality concepts
- Study the various electrical and mechanical instrumentation devices

2. Briefly describe any plans for developing and improving the course that are being implemented. Encourage to have in the college Computer and Programming Clubs for basic programming and for specific programming; Launch computer programming competitions related to practical issues.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	know the instruments type and performance characteristics	K2
1.2	know the basic of calibration	K2
1.3	know the basic of global metrology standard's	K2
1.4	know the mechanical measurement's	
2	**Skills:**	
2.1	Choosing appropriate measuring instruments	S1
2.2	Recognize the basic notions of fits, limits and tolerances.	S1
2.3	Understand Metrology of Gears and Screw Threads	S2
2.4	Understand the fundamentals of inspection methods and systems	S2
2.5	Use computational skills and interpret results accurately	S3
2.6	Analyze & do a real experiment with inspection measuring instrumentation selection according to defect criterion expected	S4
2.7	Student will take the responsibility to write a given report on their own and submit on time	S5
2.8	Improve communication skills with industry for showing and doing experiments	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Concept of Measurement: General concept – Generalized measurement system - Units and standards, measuring instruments, sensitivity, readability, range of accuracy, precision, static and dynamic response, repeatability, systematic and random errors, correction and calibration	8
2	Linear and Angular Measurement: Definition of Metrology-Linear measuring instruments: Vernier, micrometer, interval measurement, Slip gauges and classification, interferometry, optical flats, limit gauges-Comparators: Mechanical, pneumatic and electrical types, applications. Angular measurements: -Sine bar, optical bevel protractor, angle Decker – Taper measurements, coordinate measuring machine (CMM)	6
3	Form Measurement: Measurement of screw threads-Thread gauges, floating carriage micrometer-measurement of gears-tooth thickness-constant chord and base tangent method-Gleason gear testing machine – radius measurements-surface finish, straightness, flatness and roundness	6
4	Laser and Advances in Metrology: Precision instruments based on Laser-Principles- laser interferometer-application in linear, angular measurements and machine tool metrology. Coordinate measuring machine (CMM)- Constructional features – types, applications – digital devices computer aided inspection	5
5	Measurement of Power and Flow: Force, torque and power: mechanical, pneumatic, hydraulic and electrical types. Flow measurement: Venturi, orifice, rotameter, Pitot tube. Temperature: bimetallic strip, pressure thermometers, thermocouples, electrical resistance thermistor	5
...		
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	Develop the knowledge of errors, linear, angular and contour measurements	• Lectures • Homework • Assignments	• Two (Mid. and Final exams) • Monthly quizzes • Evaluated homework • Team project presentation
1.2	Comprehend the different types of fits and tolerances		
…			
2.0	**Skills**		
2.1	Understand the various electrical and mechanical instrumentation devices	• Lectures are associated with practical Industrial Engineering examples • Involve students in research projects an case study is given to the students to propose a suitable solution. • Engage students in classroom discussions • Make interactions for self and reciprocal evaluation • Oral presentations • Real-work problems will be addressed within term projects	• Homework • Assignments Discussion skills, scientific curiosity and critical sense are individually evaluated through oral questions and quizzes. The intended learning outcomes are evaluated via assignment tests, exercises, and team project works. • Visits some local factories for solving problems associated with measurement technology and preparation project for presentation
2.2	Understand the different Gear metrology; surface texture, out of roundness and flatness measurements		
2.3	Explore the advanced features of the precision measurement tools and equipment used in modern manufacturing		
2.4	Understand the fundamentals of error analysis and uncertainty		
2.5	Understand the fundamentals of inspection methods and systems		
2.6	Analyze & do a real experiment with inspection measuring instrumentation selection according to defect criterion expected		
2.7	Student will take the responsibility to write a given report on their own and submit on time		
2.8	Improve communication skills with industry for showing and doing experiments		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Reports, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Reports, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Lab final exam	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Raghavendra N.A. and Krishnamurthy, Engineering Metrology and Measurement, Oxford University Press,2013, ISBN-13: 9780198085492
Essential References Materials	Technology of Machine Tools, Steve F. Krar & J. William Oswald, McGraw-Hill Publishing Company , Fourth Edition , 1991.
Electronic Materials	Lecture material in PPT
Other Learning Materials	Simulation software's and metrology software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

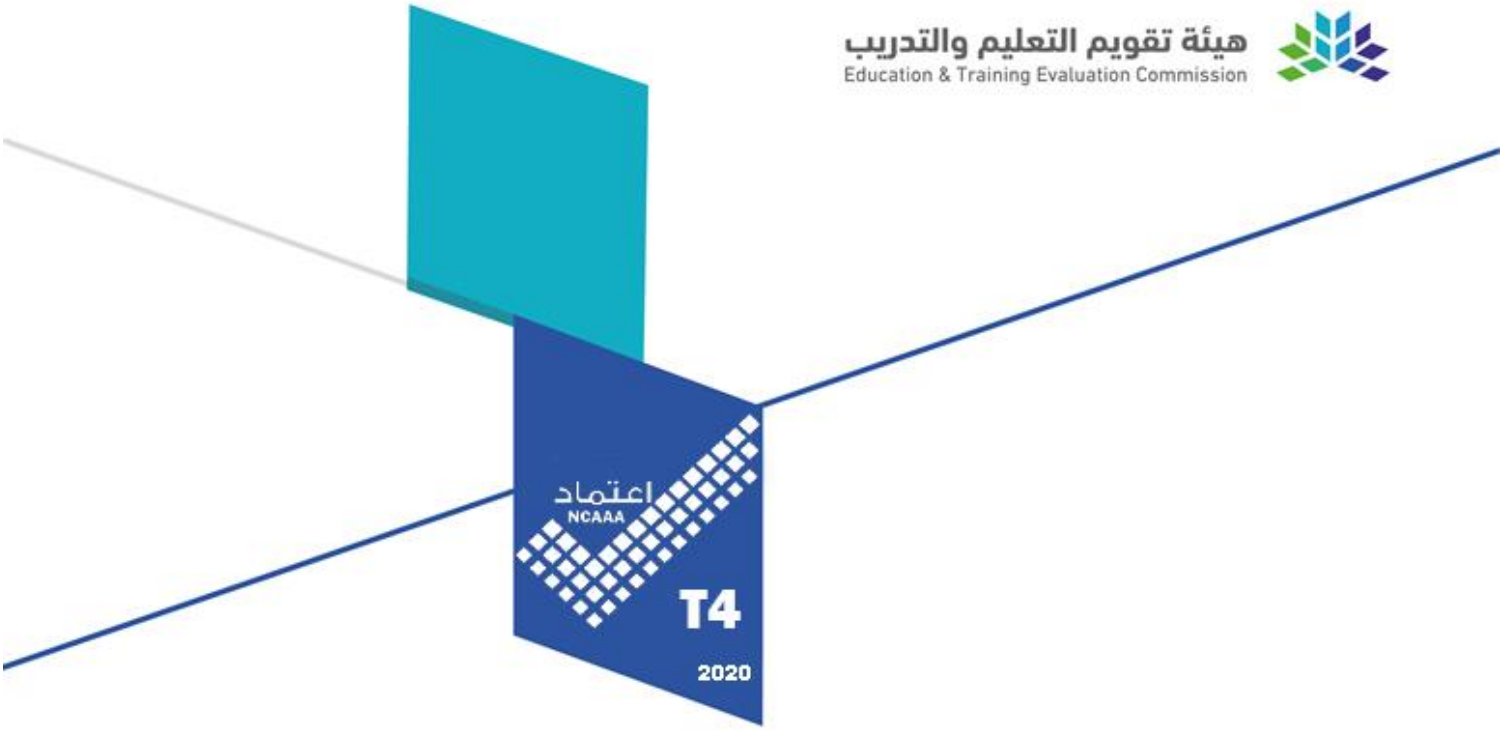
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Thermal Engineering**
Course Code:	**IE2304**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Sixth Semester / Second Year
4. Pre-requisites for this course (if any)**: Dynamics**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

The course covers basic concepts of thermodynamics, properties of pure substances, P-V-T phase diagrams, property tables, first and second law of thermodynamics, and introduction to entropy. Basic concepts of heat transfer, heat transfer by conduction, convection, and radiation. The lab includes experimental analysis heat transfer, and thermodynamic systems.

2. Course Main Objective

By the completion of the course, the student should be able to:

1.1 know the fundamentals of engineering thermodynamics and heat transfer.

1.2 apply techniques for formulating engineering thermodynamics system.

1.3 solve thermal problems with emphasis on using an integrated and just-in-time teaching strategy.

1.4 compete in the workplace through cooperative group works and more computer-based teaching and learning.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Know the fundamentals of engineering thermodynamics and heat transfer.	K2
1.2		
1.3		
1...		
2	**Skills:**	
2.1	Apply techniques for formulating engineering thermodynamics system.	S2
2.2	Solve thermal problems with emphasis on using an integrated and just-in-time teaching strategy.	S3
2.3	Compete in the workplace through cooperative group works and more computer-based teaching and learning.	S4
2.4		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to thermal sciences; relationship between thermodynamics, and heat transfer.	4
2	Introduction to thermodynamic concepts: thermodynamic properties (temperature, pressure, etc.) & systems (open vs. closed) through examples. Properties of pure substances, equations of state, and T-v diagrams, tabulated data. Relationships for ideal gases.	7
3	Concepts of energy (First law) for a closed system. Work: work in ideal and real processes, various modes of work. First law for open system, control volume (CV) analysis. A more in-depth discussion of heat transfer and 'flow work' terms, introduction to second law of thermodynamics and entropy through heat transfer in a reversible process.	7
4	Heat transfer modes: conduction (Fourier's law), convection (Newton's law) and radiation.	12
5		
...		
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	Know the fundamentals of engineering thermodynamics and heat transfer.	• Lectures • Homework • Assignments • Lab Reports	• Mid and Final exams • Monthly quizzes • Evaluated homework • Team project presentation • Lab Reports • Final Lab Exam
1.2	Know the fundamentals of engineering thermodynamics and heat transfer.		
…			
2.0	**Skills**		
2.1	Apply techniques for formulating engineering thermodynamics system.	• Lectures • Homework • Assignments • Lab Reports	• Mid and Final exams • Monthly quizzes • Evaluated homework • Team project presentation • Lab Reports • Final Lab Exam
2.2	Solve thermal problems with emphasis on using an integrated and just-in-time teaching strategy.		
2.3	Compete in the workplace through cooperative group works and more computer-based teaching and learning.		
2.4	Compete in the workplace through cooperative group works and more computer-based teaching and learning.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Reports, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Reports, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5^{th}-7^{th} Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	5%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
4	Lab	During 11th Week	20%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	"Introduction to Thermodynamics and Heat Transfer", Yunus A. Cengel, 2nd Edition, McGraw-Hill, 2008."
Essential References Materials	None
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Engineering Reports**
Course Code:	**COE3205**
Program:	**Bachelor of Construction Engineering**
Department:	**Construction Engineering Department**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 2 (2+0)
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Level 7/ Year 3
4. Pre-requisites for this course (if any)**: English Language (3) ELCE1203**
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**	20	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	20

B. Course Objectives and Learning Outcomes

1. Course Description

Design of research report, principles and procedures of engineering reports writing; organizing information, and writing specialized forms such as abstracts, instructions, and proposals, formal Email writing.

2. Course Main Objective

2.1. Explain and apply techniques for scientific writing and research methodology to prepare the writing of a scientific report.
2.2. Perform investigation using methods, explain and take position on the results as well as summarize related work.
2.3. Apply knowledge in scientific writing and research methodology and use the knowledge to write a scientific report.
2.4. evaluate situations about Ethics

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
	N/A	
2	**Skills :**	
2.1	Explain and apply techniques for scientific writing a research methodology to prepare the writing of a scientific report	S5
2.2	Perform investigation using methods, explain and take position on the results as well as summarize related work	S5
2.3	Apply knowledge in scientific writing and research methodology and use the knowledge to write a scientific report.	S5
3	**Values:**	
	N/A	

C. Course Content

No	List of Topics	Contact Hours
1	Introduction	2
2	Eliminating Sporadic Noise in Engineering Writing.	2
3	Guidelines for Writing Noise-Free Engineering Documents.	2
4	Letters, Memoranda, Email, and Other Media for Engineers.	2
5	Writing Common Engineering Documents.	2
6	Writing an Engineering Report.	2
7	Constructing Engineering Tables and Graphics.	2
8	Engineering Your Speaking.	2
9	Writing to Get an Engineering Job.	2
10	Ethics and Documentation in Engineering Writing.	2
Total		20

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**		
2.0	**Skills**		
2.1	Explain and apply techniques for scientific writing a research methodology to prepare the writing of a scientific report	Lecture	Assignment / Quiz/ Mid-term and Final Exams
2.2	Perform investigation using methods, explain and take position on the results as well as summarize related work		
2.3	Apply knowledge in scientific writing and research methodology and use the knowledge to write a scientific report.		
3.0	**Values**		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Assignments	2,4,6,8,10	10%
2	Quizzes	3,5,9	10%
3	Midterm exam	6	30%
4	Final exam	11	50%

***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 :
Communicate during office hours, email or WhatsApp

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	"A Guide to Writing as an Engineer", David Beer and David McMurrey, John Wiley, 5th edition, April 2019. ISBN-13: 978-1119285960
Essential References Materials	Robert Irish, "Writing in Engineering: A Brief Guide". Oxford University Press; 1st edition 2016. ISBN-13: 978-0199343553
Electronic Materials	• Electronic materials of the required textbook and its PowerPoints slides • Umm Al-Qura LMS related contents
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom
Technology Resources (AV, data show, Smart Board, software, etc.)	Blackboard, Data show, Smart Board
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
Students' course evaluation	Students	Indirect

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Feedback from students and instructors.	Student/Instructors	Direct

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	Construction Engineering Council
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

Course Specifications

Course Title:	**Operations Research (1)**
Course Code:	**IE3501**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Seventh Semester / Third Year
4. Pre-requisites for this course (if any)**: Engineering Analysis (1)**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Mathematical modeling, linear programming, graphical method, simplex algorithm, duality, sensitivity analysis, transportation and assignment problems, network models.

2. Course Main Objective

1. What is the main purpose for this course?
   - Identify the basic principles of linear programming.
   - Formulate successfully optimization problems related to basic Engineering and Managerial applications
   - Apply the graphical method and Simplex algorithm to solve Linear Programming models.
   - Apply the concepts and theorem of duality.
   - Perform post-optimality analysis.
   - Solve Transportation models and Assignment models.
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): use data show

   Assigning a case-study project that is presented to speak about a real-life problem.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Explain the mathematical background of the basic principles of linear programming	K1
1.2	Develop operational research models and formulations from the verbal description of the real systems.	K2
1.3		
1...		
2	**Skills:**	
2.1	Solve linear programming models by using the graphical method and the Simplex method	S1
2.2	Apply the duality concepts and techniques including strong duality and complementary slackness to reformulate and solve optimization problems	S2
2.3	Perform sensitivity analysis to generate post-optimality conclusions	S3
2.4	Apply specific models and algorithms to solve transportation, assignment and network models	S4
2.5	Implement optimization models using solver software including excel, LINDO or CPLEX solvers	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to operations research	3
2	Linear programming and problem modeling	6
3	The Graphical Method	3
4	The Simplex method – primal simplex	6
5	The Simplex algorithms in Two Phases	6
6	Duality	5
7	Sensitivity analysis	3
8	Transportation and assignment problems	5
9	Network models	3
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	Explain the mathematical background of the basic principles of linear programming	• Lectures • Homework • Assignments • Lab sessions • Exam & Quizzes	• Exams and quizzes • Given homework assignments
1.2	Develop operational research models and formulations from the verbal description of the real system.		
2.0	**Skills**		
2.1	Solve linear programming models by using the graphical method and the Simplex method	• Lectures are followed by real life examples from industry. • Engage students in classroom interaction with making practice Incite students to present their works to discuss potential drawbacks and tracks of improvement. • Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • A case study is given to the students to propose a suitable solution.	• Homework • Assignments • Exams and quizzes • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades • Presentation in the classroom
2.2	Apply the duality concepts and techniques including strong duality and complementary slackness to reformulate and solve optimization problems		
2.3	Perform sensitivity analysis to generate post-optimality conclusions		
2.4	Apply specific models and algorithms to solve transportation, assignment and network models		
2.5	Implement optimization models using solver software including excel, LINDO or CPLEX solvers		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizes	Continuous Assessment	15%
4	Project	During 11th Week	10%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer
   - Tutoring
   - Factory Trip

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Operations Research, An Introduction: Hamdy A. Taha., John Wiley & Sons, Inc., 10th Edition.
Essential References Materials	Wayne L. Winston, Munirpallam Venkataramanan, Introduction to Mathematical Programming: Operations Research, Vol. 1 (Book & CD-ROM), 4th Edition.
Electronic Materials	Lecture material in PPT
Other Learning Materials	Introduction to Operations Research, Hillier, F.S., and Lieberman, G.J., Mc Graw Hill Company, 8th Edition, 2004, Excel.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

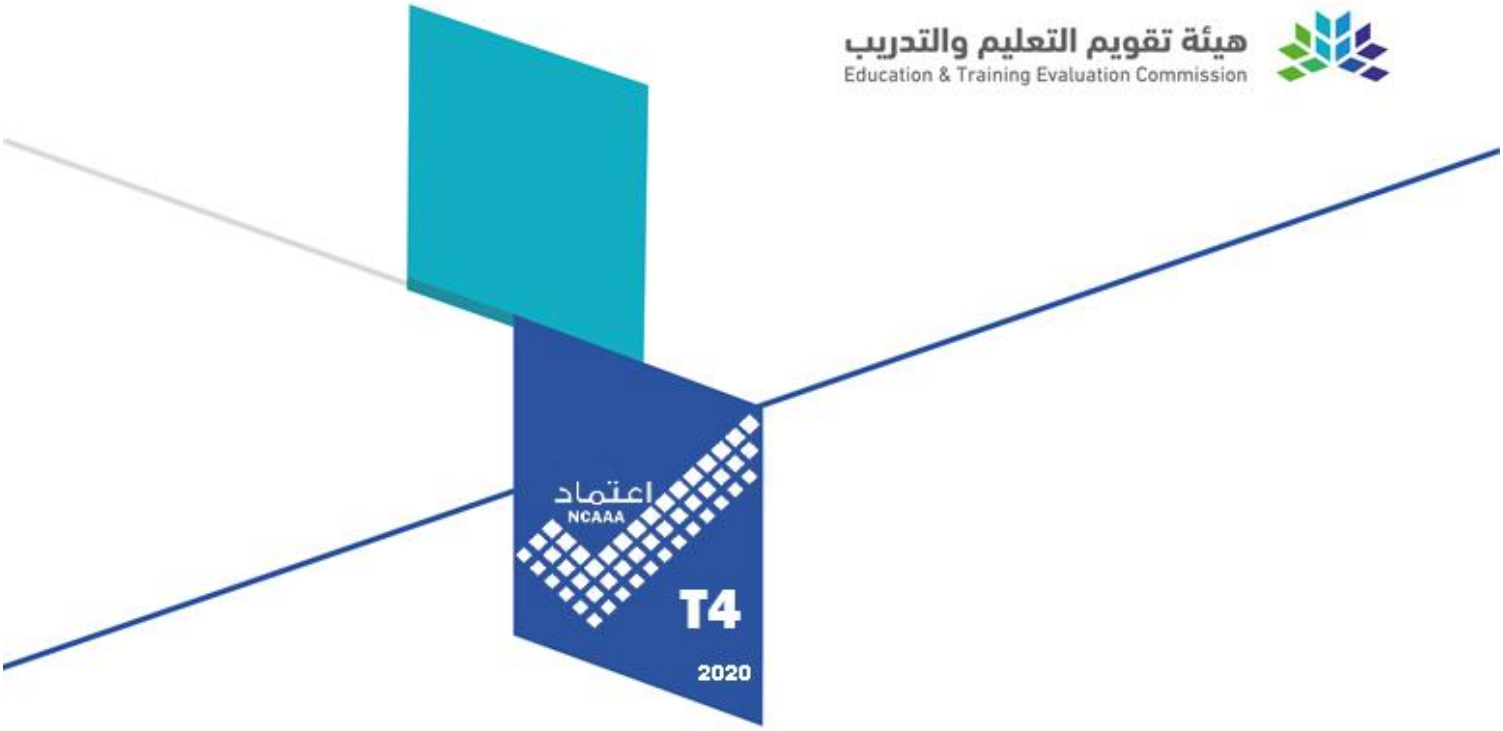
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Work Systems Measurement and Analysis**
Course Code:	**IE3601**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Seventh Semester / Third Year
4. Pre-requisites for this course (if any)**: Engineering Statistics and Probability**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Study of manufacturing and service methods and processes, analytical techniques of process flow and efficiency, Motion and Time Study (MTS), work methods and standards, time measurements, project.

2. Course Main Objective

1. What is the main purpose for this course?

   By the completion of the course, the students should be able to:

   - Explain the basic concepts of 'work study' (WS): method study and work measurement. (Scope of WS; 'Productivity' meaning & 'Basic Procedure')
   - Explain/use the tools and techniques of 'method study' (Charts/diagrams, micro-motion studies & Principles of Motion economy)
   - Explain/use the tools and techniques of 'work measurement' (WM). (Basic concept of WM and various Techniques of WM)
   - Design, perform and analyze the studies/experiments related to WS, process analysis, operation analysis, time study, pre-determined motion time system (PMTS), Standard data and work sampling with statistical analysis.

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

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Comprehend the knowledge of work systems measurements and analysis	K1
1.2	Comprehend the different types of method study	K2
1.3	Explain the different between the concept of work measurement techniques	K2
1...		
2	**Skills:**	
2.1	Use the techniques of work systems measurements	S3
2.2	Use various techniques of 'method study' such (Charts/diagrams, micro-motion studies & Principles of Motion)	S3
2.3	Use the tools and techniques of 'work measurement' (WM). (Basic concept of WM and various techniques of WM)	S3
2.4	Analyse the studies/experiments related to work systems measurements	S4
2.5	Improve communication skills with applying a work system analysis on an organization.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Work Study: Definition and scope of Work Study, Productivity and Work Study, Work Study, the Approach: Value of the Work Study, Techniques, and Basic Procedure	10
2	Method Study: Method study and Job Selection; Recording Factors; Critical Examination; String Diagram; Multiple Activity Chart; Travel Chart; Principles of Motion Economy; the Two-Handed Chart; Operation Analysis and Fundamental Hand Motions; Micro-motion and Memo-motion analysis; Cycle-graph and Chrono-cyclograph	15
3	Work Measurement: The Definition, Purpose, Use and Techniques; Work Sampling; Time Study: Equipment, Forms, Job-selection, Timing, Steps, Sample size, Rating), Basic time, Selected time, Allowances, Standard Time, Computer-Aided Time study (CAT); PTS: Wok Factor, MTM; Standard Data	15
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	Comprehend the knowledge of work systems measurements and analysis	• Lectures • Homework • Assignments • Exam & Quizzes	• Tested by giving them two exams and two quizzes • Given homework assignments
1.2	Comprehend the different types of method study		
1.3	Explain the different between the concept of work measurement techniques		
2.0	**Skills**		
2.1	Use the techniques of work systems measurements	• Lectures are followed by numerous examples • Tutorials are used to explain different techniques used for problem solving. • Engage students in classroom interaction with making practice • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific organization	• Assignments • Exams & Quizzes • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades
2.2	Use various techniques of 'method study' such (Charts/diagrams, micro-motion studies & Principles of Motion)		
2.3	Use the tools and techniques of 'work measurement' (WM). (Basic concept of WM and various techniques of WM)		
2.4	Analyse the studies/experiments related to work systems measurements		
2.5	Improve communication skills with applying a work system analysis on an organization.	• Report Presentation	• Presenting and discuss in class room
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Team Project	11th Week	15%
5	Final Exam	During 12th 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:

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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Kanawati, G, (Ed), 1992, Introduction to Work Study, 4th edition, International Labor Office: Geneva. (ISBN 92-2-107108-1).
Essential References Materials	Mikell P. Groove, Work Systems: The Methods, Measurement and Management of Work, 1st Edition.
Electronic Materials	Lecture Material in PPT
Other Learning Materials	N/A

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Advanced Engineering Statistics**
Course Code:	**IE3402**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Seventh Semester / Third Year
4. Pre-requisites for this course (if any)**: Engineering Statistics and Probability**
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**	30	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

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

B. Course Objectives and Learning Outcomes

1. Course Description

This course focuses on advanced statistics methods including the specification and estimation of the linear regression model, Gauss-Markov assumptions, serial correlation, and errors in variables, hypothesis tests and specific quantitative tests, econometrics of Panel Data and Time Series Analysis. The course covers also multivariate techniques in management engineering, and applies aspects of quantitative data analysis, including model testing, decision theory.

2. Course Main Objective

By the completion of the course, students should be able to:

1.1 Use basic econometrics techniques and apply them.

1.2 Recognize advanced statistical concepts and tests.

1.3 Analyze collected data using statistical approaches and interpret results.

1.4 Communicate effectively using statistical techniques and inferences.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize advanced statistical concepts.	K2
1.2		
1.3		
1...		
2	**Skills:**	
2.1	Use knowledge of advanced statistics in solving and designing engineering systems.	S1
2.2	Apply statistical approaches to solve engineering problems.	S3
2.3	Communicate effectively using statistical techniques and inferences.	S5
2...		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction: The Methods and Applications of Econometrics	3
2	Multiple Regression, Linear Statistical Model, Tests of Hypothesis, Sampling theory, Consistency, Asymptotic Normality, and Efficiency	4
3	Non-orthogonality of Repressors and Errors: Correlation Between Repressors and Errors, Errors in Variables, Instrumental Variables and Specification Tests, Khi 2 and Pearson tests	4
4	Economic Data: Cross Sections, Time Series, and Panel Data, High Frequency and Massive Data Sets Panel Data	3
5	Nonlinear Specifications, Limited Dependent Variables and Maximum Likelihood Estimation	4
6	Data Analysis: ANOVA and Correlation, Regression and Classification, Cross Validation and Model Selection	5
7	Time Series Analysis	3
8	Panel Data Analysis, ARMA and Box-Jenkins methodology	4
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	Recognize advanced statistical concepts	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
1.2			
…			
2.0	**Skills**		
2.1	Use knowledge of advanced statistics in solving, designing engineering systems.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
2.2	Apply statistical approaches to solve engineering problems.		
2.3	Communicate effectively using statistical techniques and inferences.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizzes	Continuous Assessment	10%
	Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			

#	Assessment task*	Week Due	Percentage of Total Assessment Score
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard
- Tutoring

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Wooldridge, J. M. Econometric Analysis of Cross Section and Panel Data. Cambridge, MA: MIT Press, 2001.
Essential References Materials	"Probability and statistics for engineers and scientists" Ronald E Walpole & Raymond H Myers, Pearson prince Hall 2007
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
Review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Organizational and Human Resource Management**
Course Code:	**IE3701**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Seventh Semester / Third Year
4. Pre-requisites for this course (if any)**: Introduction to Industrial Engineering**
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**	30	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

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

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides a comprehensive analysis of individual and group behavior in organizations. Its purpose is to provide an understanding of how organizations can be managed more effectively and at the same time enhance the quality of employees work life.

2. Course Main Objective

1.What is the main purpose for this course?

Following this course, a student should be able to:

- Comprehend individual behavior in organizations, including diversity, attitudes, job satisfaction, emotions, moods, personality, values, perception, decision making, and motivational theories.
- Comprehend group behavior in organizations, including communication, leadership, power and politics, conflict, and negotiations.
- Comprehend the organizational system, including organizational structures, culture, human resources, and change.

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):

- web based reference material
- changes in content as a result of new research in the field

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Comprehend the knowledge of organization behaviour	K1
1.2	Comprehend the different types of motivations	K1
1.3	Comprehend the basic principles and techniques of individual and group behavior	K1
1.4	Discuss the different Conflict, power and politics	K1
1.5	Comprehend Organizational structure	K2
1.6	Explain the methods of Communication and organizational change and development	K2
1.7	Explain the working principles of role of human resource managers environment	K2
1.8	Explore the advanced features of the type leadership.	K2
2	**Skills:**	
2.1	Use the working principles of different types of decision making	S2
2.2		
2.3		
2...		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Organizational Behavior	1
2	Motivation Concepts	5
3	Foundations of Group Behaviors	2
4	Communication	5
5	Leadership	2
6	Power and Politics	5
7	Conflict and Negotiation	2
8	Foundations of Organization Structure	5
9	Human Resource Policies and Practices	3
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	Comprehend the knowledge of organization behavior	• Lectures • Tutorials • Engage students in classroom interaction with making practice • Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • An assignment is given to the students to perform it	• Assignments • Exams & Quizzes • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades
1.2	Comprehend the different types of motivations		
1.3	Comprehend the basic principles and techniques of Individual and group behavior		
1.4	Discuss the different Conflict, power and politics		
1.5	Comprehend Organizational structure		
1.6	Explain the methods of Communication and organizational change and development		
1.7	Explain the working principles of role of human resource managers environment		
1.8	Explore the advanced features of the type of leadership.		
2.0	**Skills**		
2.1	Use the working principles of different types of Decision making	• Lectures • Homework • Assignments • Exam & Quizzes	• Tested by giving them exams and quizzes • Given homework assignments
2.2			
…			
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quizes	Continuous Assessment	15%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Organizational Behaviors, 15th edition, by Robbins & Judge, Prentice-Hall Publishing
Essential References Materials	N/A
Electronic Materials	Lecture material in PPT
Other Learning Materials	http://www.pearsonhighered.com/showtell/robbins_0132834871/web

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture room capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

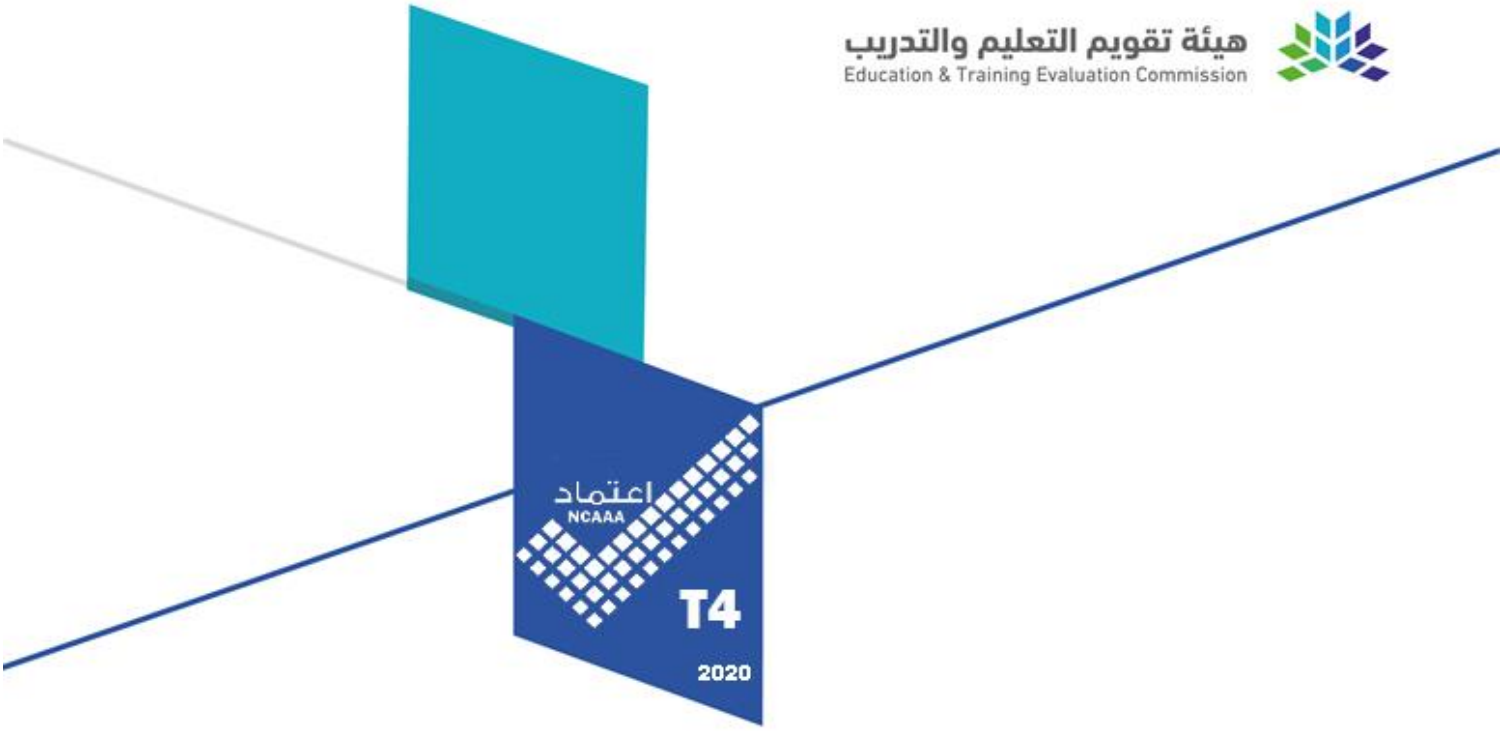
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Engineering Economy**
Course Code:	**IE3203**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eighth Semester / Third Year
4. Pre-requisites for this course (if any)**: Engineering Statistics and Probability**
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**	30	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

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

B. Course Objectives and Learning Outcomes

1. Course Description

The course covers cost concepts, time value of money, interest formulas, cash flow and equivalence calculations, inflation and taxation, measures of investment worth, projects evaluation, depreciation, breakeven analysis, and replacement analysis.

2. Course Main Objective

By the completion of the course, the student should be able to:

1. Know the concepts of engineering economy.
2. Understand major principles of engineering economy.
3. Identify, formulate, and solve engineering economy problems.
4. Apply knowledge of the concepts of engineering economy to make fundamentally strong base for decision making skills.
5. Solve engineering economic problems involving comparison and selection of alternatives by using analytical techniques including benefit-cost ratio and breakeven analysis.
6. Apply a systematic evaluation of the various cost elements of a typical manufactured product, an engineering project or service, with a view to determine the price offer.
7. Analyze profit/revenue data and carry out make economic analysis in the decision-making process to justify or reject alternatives/projects.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Know the concepts of engineering economics.	K2
1.2		
1.3		
1...		
2	**Skills:**	
2.1	Apply knowledge of mathematics, science, and engineering	S1
2.2	Identify, formulate, and solve engineering problems.	S1
2.3	Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.	S3
2.4	Use the techniques, skills, and modern engineering tools necessary for engineering practice.	S4
2.5	Recognize professional and ethical responsibility.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Engineering decision making	3
2	Time value of money	4
3	Cash flow analysis	4
4	Depreciation	3
5	Comparison methods	4
6	Replacement decisions	4
7	Public sector decision making	4
8	Dealing with uncertainty and risk probability	4
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	Know the concepts of engineering economics.	• Lectures • Homework • Assignments	• Mid and Final exams • Monthly quizzes • Evaluated homework • Team project presentation
1.2			
…			
2.0	**Skills**		
2.1	Apply knowledge of mathematics, science, and engineering	• Lectures • Homework • Assignments	• Mid and Final exams • Monthly quizzes • Evaluated homework • Team project presentation
2.2	Design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.		
2.3	Identify, formulate, and solve engineering problems.		
2.4	Recognize professional and ethical responsibility.		
2.5	Use the techniques, skills, and modern engineering tools necessary for engineering practice.		
3.0	**Values**		
3.2	Comprehend effectively as a member or a leader of a team engaged in		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	activities appropriate to the program's discipline		
…	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles		

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	15%
4	Project	During 11th Week	10%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	"Thinking Like An Engineer – An Active Learning Approach", Stephan, Bowman, Park, Sill, Ohland, 2nd ed., Prentice Hall, 2011.
Essential References Materials	Donald G. Newnan, Jerome P. Lavelle, Ted G. Eschenbach, Engineering Economic Analysis, 12th Edition, Oxford.
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

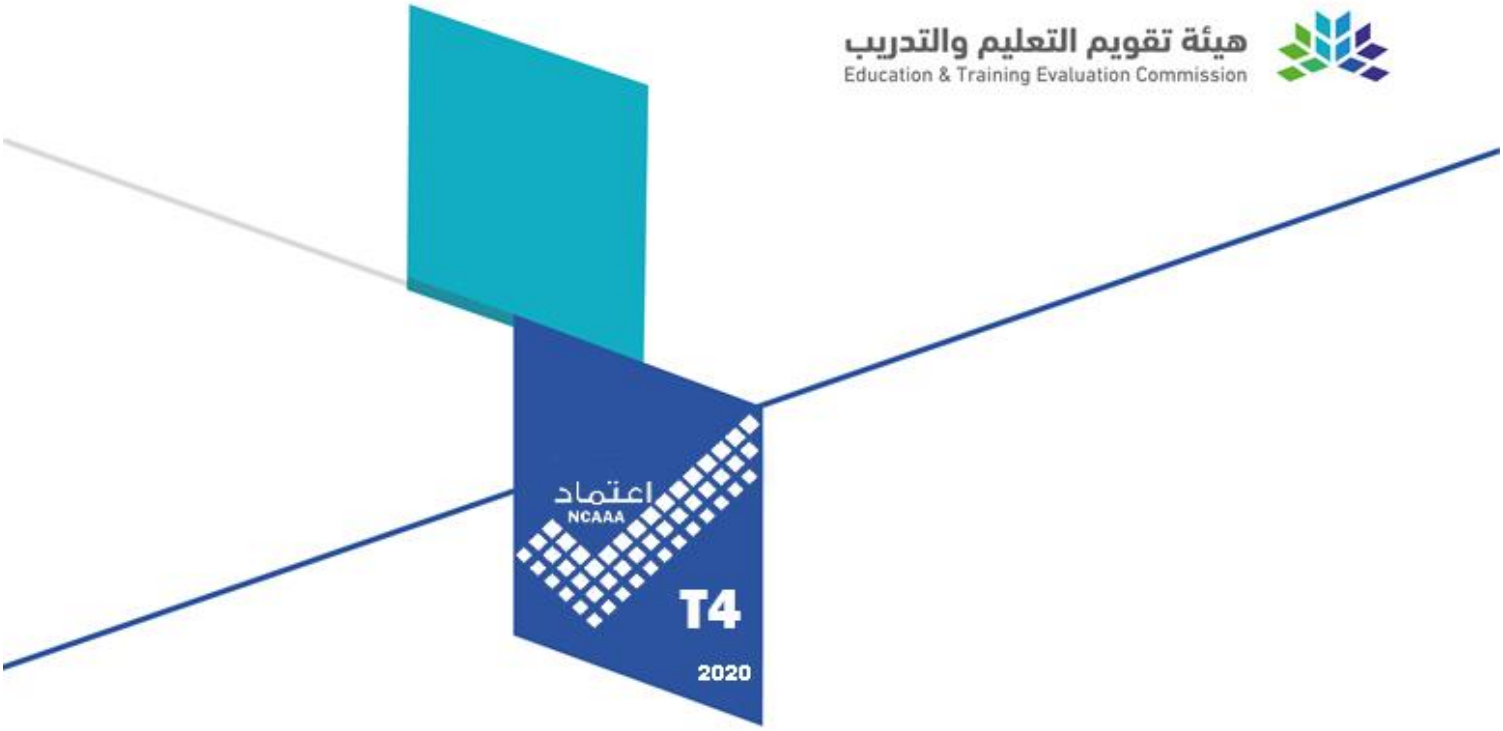
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Operations Research (2)**
Course Code:	**IE3502**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eighth Semester / Third Year
4. Pre-requisites for this course (if any)**: Operations Research (1)**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Combinatorial optimization, problem complexity basis; advanced modeling techniques with Integer programming (IP), binary (0-1IP) and mixed integer programming (MIP); exact algorithms (as Branch-and-Bound or dynamic programming) and approximation algorithms (heuristics); non-linear programming (NLP); Probabilistic and stochastic models used in industrial engineering systems: Markov processes, other stochastic processes (queuing and inventory models and their applications); introduction to advanced optimization (metaheuristics, goal programming, game theory problems etc.)

2. Course Main Objective

1. What is the main purpose for this course?

- Apply analytical techniques of OR-II.
- Identify the basic principles and techniques of OR-II.
- Formulate optimization models
- Develop and apply simple heuristic algorithms for well-known OR applications
- Solve the nonlinear programming and its applications.
- Apply Branch-and-Bound and/or Dynamic Programming and their applications
- Solve Queueing (Waiting line) and Inventory models
- Apply Markov analysis
- Analyze & solve real-life problems for Term Project with a team
- Implement optimization models and algorithms in computer software applications and solve OR-II problems

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

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify combinatorial and complexity characteristics of typical industrial engineering optimization problems such as knapsack problem, assignment problem, traveling salesman problem, shortest path problem, etc.	K2
1.2	Explain the basic principles of analysis, modeling, approximate and exact solving techniques for a variety of problems in Operations Research II	K2
1.3		
1...		
2	**Skills:**	
2.1	Formulate complex problems with advanced modeling techniques of Integer programming (IP), binary (0-1IP) and Mixed Integer Programming (MIP)	S1
2.2	Apply heuristic algorithms and also exact solving methods such as branch-and-bound and dynamic programming for OR applications	S2
2.3	Solve simple NLP problems.	S3
2.4	Describe the Markov decision process and typical probabilistic models as waiting line (queuing) and inventory models	S4
2.5	Manage successfully Team Projects implementing real-life optimization models and algorithms in computer software and programming applications.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to combinatorial optimization and typical industrial engineering optimization problems	3
2	Exact and approximate solving (heuristic) for typical optimization problems, algorithm concept, issue of computation time and complexity classification. Cases of knapsack problem, assignment, shortest path problem, TSP.	6
3	Modelling with binary variables and mixed integer programming (IP, Binary IP, MIP).	4
4	Integer Programming: Branch-and-Bound method, branching, relaxed problem, linear relaxation, fathoming rules, dominance properties	6
5	Dynamic Programming; terminology, notations, shortest route problem by DP, knapsack problem, air transportation service problem, resource allocation problems, distribution of effort problem.	6
6	Non-linear Programming; graphical illustration, concave and convex functions, unconstraint optimization; one & multi variables, one dimensional search alg., gradient search method, Khun Tucker conditions, Frank Wolfe alg.	6
7	Markov Analysis: introduction, states & state probabilities, transition matrix, predicting future market share, equilibrium conditions, absorbing states & the fundamental matrix	3
8	Waiting Lines and Queuing Theory Models: characteristics of models. single, multi-channel models, constant service time model, finite population model.	3
9	Inventory models, elements of inventory control, inventory control systems, economic order quantity models, quantity discounts, reorder point, order quantity for a periodic inventory system.	3
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	Identify combinatorial and complexity characteristics of typical industrial engineering optimization problems such as knapsack problem, assignment problem, traveling salesman problem, shortest path problem, etc.	• Lectures • Homework • Assignments • Exams and quizzes	• Exams and quizzes • Given homework assignments
1.2	Explain the basic principles of analysis, modeling, approximate and exact solving techniques for a variety of problems in Operations Research II		
…			
2.0	**Skills**		
2.1	Formulate complex problems with advanced modeling techniques of Integer programming (IP), binary (0-1IP) and Mixed Integer Programming (MIP)	• Lectures are followed by real life examples from industry. • Engage students in classroom interaction with making practice	• Homework • Assignments • Exams and quizzes
2.2	Apply heuristic algorithms and also exact solving methods such as branch-and-bound and dynamic programming for OR applications		
2.3	Solve simple NLP problems.		
2.4	Describe the Markov decision process and typical probabilistic models as waiting line (queuing) and inventory models.		
2.5	Manage successfully Team Projects aiming to implement real-life optimization models and algorithms in computer software and programming applications.	• Animating initiative ad inventive lab sessions using programming and solver software.	• Presentation of a team project work
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Team Project	During 11th Week	15%
3	Homework Assignments	Continuous Assessment	10%
4	Quizes	Continuous Assessment	10%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Quantitative Analysis for Management, Barry Render, Ralph M. Stair (Jr) and Michael Henna, Prentice Hall International Inc., 10th Edition (2006)
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	• Introduction to Operations Research, Hillier, F.S., and Lieberman, G.J., Mc Graw Hill Company, 8th Edition, 2004. • Operations Research: Hamdy A. Taha., John Wiley & Sons, Inc., 7th Edition, 2002. • Excel, Cplex or Lindo solver

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

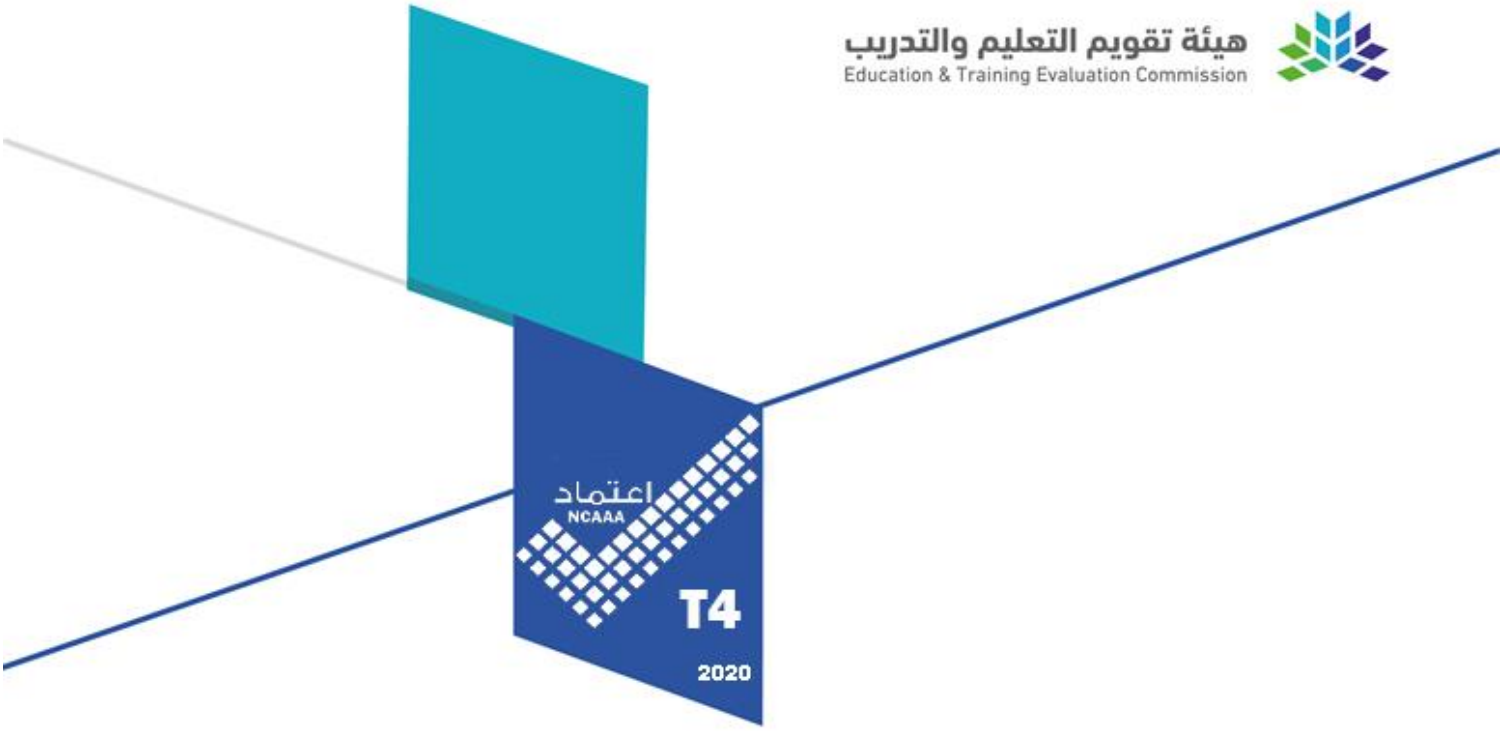
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Computer Applications in Industrial Engineering**
Course Code:	**IE3204**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura university**

Table of Contents

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: Eighth Semester / Third Year
4. Pre-requisites for this course (if any)**: Engineering Analysis (1)**
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**	50	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	30
3	**Tutorial**	
4	**Others** (specify)	
	Total	50

B. Course Objectives and Learning Outcomes

1. Course Description

Computer structured programming using language C, structured and user-defined data types, simple and complex structures declaration, condition and repetition structures, functions and procedures, basic libraries, dynamic memory allocation, introduction to object-oriented and visual programming. Basic applications and samples for Industrial Engineering.

2. Course Main Objective

1. What is the main purpose for this course?

This is a complementary part of the course "Computer Programming Skill" received by students in the first level of engineering study. The course aims to upgrade these student skills and to develop and validate, using complete fundamental features and elements of programming, a more effective ability of the student to:

- Write algorithms with pseudocode to conceptualize a program during the program-design
- Develop structured C programs using repetition structures, functions and procedures, structured and user-defined data types.
- Develop a good knowledge of using C codes to manipulate numerical data and calculate specific results.
- Develop simple Console or Visual applications that interact with relational databases.
- Write simple codes within basic Visual C++ (and/or C#) using "forms projects", sub procedures and functions, forms, parameterizable data cells and buttons, and explain the concept of object-oriented design (OOD).

2. Briefly describe any plans for developing and improving the course that are being implemented. Encourage to have in the college Computer and Programming Clubs for basic programming and for specific programming; Launch computer programming competitions related to practical issues.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Outline the essential features and elements of the C programming language.	K1
1.2	Apprehend programming fundamentals, including statement and control flow and recursion.	K1
1.3	Develop the knowledge of using C and C++ codes to manipulate numerical data and calculate specific results.	K2
1.4	Develop the knowledge of the basic's elements of imperative programming: variables, flow control (conditional and iterative structures), functions and procedure, by-value or address transfer, specific C programming libraries.	K2
2	**Skills:**	
2.1	Skills of writing programs to solve specific industrial management problems that should include common scientific procedures such as numerical data analysis, simulation, and general data file manipulation.	S1
2.2	Be able to use C and C++ codes to simulate physical or management systems by using for example a simplified version of Monte Carlo method (or any other Industrial Engineering technique).	S1
2.3	Program with basic data structures using array, list, and linked structures	S1
2.4	Be able to debug and correct failed programs to run	S2
2.5	To optimize codes in term of complexity/ number of instructions consuming CPU times.	S2
2.6	Know how to convert mathematical statements, such as functions into C code	S2
2.7	Be able to write code which reads data files and manipulates the individual elements of the resulting arrays.	S2
2.8	Be able to write code which outputs data files, in appropriate formats, from arrays generated within a program	S2
2.9	Be able to write code which generates random numbers within a simple distribution.	S2
2.10	To provide highly transferable programming skills applicable to any quantitative discipline.	S3
2.11	Effectively use industry standard tools for writing, testing, and running C and C++ codes	S3
2.12	Be prepared to program more complicated projects in the context of team project assignment or real-life industrial requirement	S3
2.13	To collaborate in programming team to solve elementary industrial problems	S3
2.14	Use communication technologies competently	S3
2.15	Apply analytical skills to describe, explain and investigate unfamiliar programming problems	S4
2.16	Explain programming fundamentals, including statement and control flow, recursion and object-oriented design concepts of programming.	S4

CLOs		Aligned PLOs
2.17	Use technologies to access and interpret information effectively by using programming	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to C programming: Writing, compiling, and debugging C programs. Hello world, Variables and Data types, operators, C standard library	3
2	Structural programming methods: Control flow. Functions and modular programming. Variable scope. Static and global variables, More control flow	3
3	Conditional and Iterative structures (loops) Input and output.	3
4	Pointers and Memory addressing, pointers to pointers, pointer and string arrays, multidimensional arrays. Stacks and Queues structures.	3
5	Dynamic memory allocation, malloc, realloc, and free functions	1
6	FILE type and storing data	3
7	Introduction to visual C++ form programming and to visual forms project programming: introduction to principles of object-oriented problem solving and programming, Dynamic Objects and Classes Creation, basic visual “Form Project” programming with C++ and/or C#, connection to simple database structures	4
Total		20

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 essential features and elements of the C programming language.	• Lectures • Homework • Assignments • Lab sessions • home programming competitions and challenging exercises • Tutoring sessions • Engage students in research projects about programming in industrial engineering	• Exams (Mid. lab exam and Final) • Monthly quizzes • Evaluated homework • Homework • Assignments • Exams & quizzes
1.2	Apprehend programming fundamentals, including statement and control flow and recursion		
1.3	Develop the knowledge of using C and C++ codes to manipulate numerical data and calculate specific results.		
1.4	Develop the knowledge of the basics elements of imperative programming: variables, flow control (conditional and iterative structures), functions and procedure, by-value or address transfer, specific C programming libraries.		
2.0	**Skills**		
2.1	Skills of writing programs to solve specific industrial management problems that should include common scientific procedures such as numerical data analysis, simulation, and general data file manipulation.	• Engage students in classroom discussions Assist to enable students to apply their programming skills and industrial engineering knowledge to solve miscellaneous issues of realistic industrial topics. • Develop the sense of team integration and collaboration through programming issues useful for the	• Individual performances can be evaluated through group discussions • The reactivity and the contribution of students in relation to communication and numerical technology use is a part of student's evaluation • The intended learning outcomes are evaluated via assignment tests,
2.2	Be able to use C and C++ codes to simulate physical or management systems by using for example a simplified version of Monte Carlo method (or any other Industrial Engineering technique).		
2.3	Program with basic data structures using array, list, and linked structures		
2.4	Be able to debug and correct failed programs to run		
2.5	To optimize codes in term of complexity/ number of instructions consuming CPU times.		
2.6	Know how to convert mathematical statements, such as functions into C code		
2.7	Be able to write code which reads data files and manipulates the		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	individual elements of the resulting arrays.	college and local social environment • Incite students to present their works to discuss potential drawbacks and tracks of improvement. • Incite students to participate in programming forums in web	laboratory exercises, and team project works.
2.8	Be able to write code which outputs data files, in appropriate formats, from arrays generated within a program		
2.9	Be able to write code which generates random numbers within a simple distribution.		
2.10	To provide highly transferable programming skills applicable to any quantitative discipline.		
2.11	Effectively use industry standard tools for writing, testing, and running C and C++ codes		
2.12	Be prepared to program more complicated projects in the context of team project assignment or real-life industrial requirement		
2.13	To collaborate in programming team to solve elementary industrial problems		
2.14	Use communication technologies competently		
2.15	Apply analytical skills to describe, explain and investigate unfamiliar programming problems		
2.16	Explain programming fundamentals, including statement and control flow, recursion and object-oriented design concepts of programming.		
2.17	Use technologies to access and interpret information effectively by using programming		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework assignments	Continuous Assessment	20%
3	Quiz	Continuous Assessment	15%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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. 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):

- Weekly office hours
- Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Kernighan, Brian, and Dennis Ritchie. The C Programming Language. 2nd ed. Upper Saddle River, NJ: Prentice Hall, 1988
Essential References Materials	N/A
Electronic Materials	Lecture material in PPT
Other Learning Materials	visual studio software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

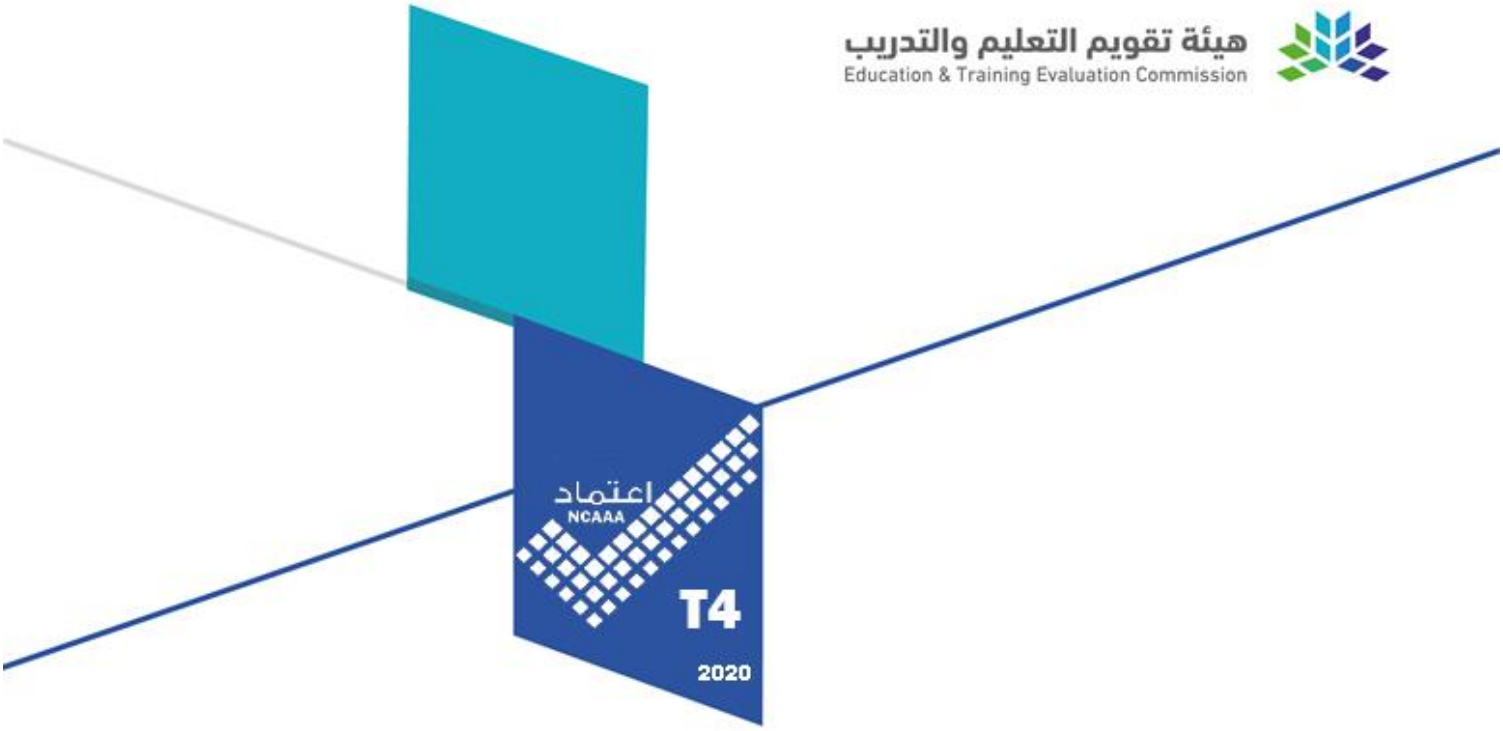
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Production Planning and Inventory Control**
Course Code:	**IE3702**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eighth Semester / Third Year
4. Pre-requisites for this course (if any)**: Engineering Statistics and Probability**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Basic concepts of Production and Operations Management (POM), design of products and services, processes and technologies, E-commerce and operations management, inventory management, Supply-Chain management, just-in-time and lean production, forecasting, Material Requirements Planning (MRP), introduction to Enterprise Requirement Planning (ERP), capacity and aggregate planning, Scheduling.

2. Course Main Objective

1. What is the main purpose for this course?
   - Apply how to manage the production function.
   - Identify some standard tools techniques used by production or operation mangers.
   - Properly apply design for products and services, techniques to improving design process.
   - Develop an appreciation for interaction of this management activity with other management systems within the organization.
   - Use computer software to solve production managerial problems.
   - Determine the optimal capacity and product availability.
   - Solve real case studies.
   - Work in group to solve homework and projects
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): Use of data show

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Comprehend the different types of Production Planning and Control	K2
1.2	Comprehend the Aggregate Production Planning to Control the Inventory	K2
1.3	Describe Supply Chain Management	K2
1...		
2	**Skills:**	
2.1	Describe the Inventory Management System.	S1
2.2	Apply the basic principles and techniques of Demand Forecasting	S2
2.3	Apply the Aggregate Production Planning.	S2
2.4	Use the Material Requirement Planning (MRP).	S3
2.5	Use Operation Scheduling to manage the operations	S3
2.6	Discover the methods of Use computer software to solve production managerial problems	S3
2.7	Apply the basic principles of some standard tools' techniques used by production or operation mangers	S4
2.8	Apply the optimal capacity and product availability	S4
2.9	Manage successfully Team Projects implementing real-life problem with a team.	S5
2.10	Define communication skills with industry for applying a machining program	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Production Planning and Control	3
2	Demand Forecasting	8
3	Aggregate Production Planning	6
4	Inventory Management System	6
5	Material Requirement Planning (MRP)	3
6	Operation Scheduling	6
7	Supply Chain Management	3
8	Measuring Manufacturing Systems Complexity	6
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	Comprehend the different types of Production Planning and Control	• Lectures • Homework • Assignments • Exam & Quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
1.2	Comprehend the Aggregate Production Planning to Control the Inventory		
1.3	Describe Supply Chain Management		
1.4			
2.0	**Skills**		
2.1	Apply the basic principles and techniques of Demand Forecasting	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice Participation of students in classroom discussion	• Homework • Assignments • Exam & Quizzes • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades • Discussion in the classroom
2.2	Apply the Aggregate Production Planning.		
2.3	Describe the Inventory Management System.		
2.4	Use the Material Requirement Planning (MRP).		
2.5	Use Operation Scheduling to manage the operations		
2.6	Discover the methods of Use computer software to solve production managerial problems		
2.7	Apply the basic principles of some standard tools' techniques used by production or operation mangers		
2.8	Apply the optimal capacity and product availability		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.9	Explain the optimal capacity and product availability	• Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific factory	
2.10	Manage successfully Team Projects implementing real-life problem with a team.		
2.11	Define communication skills with industry for applying a machining program.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quizes	Continuous Assessment	15%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Valentino J., and Goldenberg J., Introduction to Computer Numerical Control, 3rd ed, Prentice Hall, 2003
Essential References Materials	Steve Chapman, Tony K. Arnold, Ann K. Gatewood, Lloyd M. Clive, Introduction to Materials Management, 8th Edition, Pearson. William Stevenson, Operations Management, 14th Edition.
Electronic Materials	Lecture material in PPT
Other Learning Materials	Heizer J., and Render B., Operations Management, 8th Ed, Pearson Prentice Hall, 2007.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• The classes to be held twice per week for lectures of 80 minutes and tutorial once in a week for 150 minutes.
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Design of Engineering Experiments**
Course Code:	**IE3403**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eighth Semester / Third Year
4. Pre-requisites for this course (if any)**: Advanced Engineering Statistics**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Principles for design of experiments. Randomized complete block designs. Latin square and Greco-Latin square designs. General factorial designs. 2^k Factorial designs, Response surface methodology and robust design. Planning, performing and analyzing industrial experiments.

2. Course Main Objective

Upon completion of this course students will be able to:

1.1 Appreciate the importance of (DOEs) as an effective approach for improving the quality and performance of various engineering systems and processes
1.2 Know how to plan an experiment including the formulation of the problem under-study, the identification of the objectives, the selection of the relevant variables or parameters to be examined & the determination of the appropriate performance measures.
1.3 Develop an ability to effectively and efficiently design and execute industrial experiments.
1.4 Learn the necessary skills for analyzing the experimental data and interpreting the obtained results so that reliable conclusions can be drawn
1.5 Obtain a background on how to utilize the Statistical and Engineering knowledge in detecting and modelling the potential causal relationship between the studied variables and the concerned performance measure(s).
1.6 Present the results and conclusions drawn using DOE in a clear & proficient manner.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize concepts for designing industrial experiments.	K1
1.2		
1.3		
2	**Skills:**	
2.1	Use statistical design approaches to plan experiments including the formulation of the problem under-study, the identification of the objectives, the selection of the relevant variables or parameters to be examined & the determination of the appropriate performance measures.	S2
2.2	Develop an ability to effectively and efficiently design and execute industrial experiments.	S3
2.3	Adopt necessary skills for analyzing the experimental data and interpreting the obtained results so that reliable conclusions can be drawn.	S4
2.4	Communicate and draw conclusion effectively using design of experiments approaches.	S5
2...		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2

CLOs		Aligned PLOs
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to DOE, its link to IE & its importance as an approach to product and process improvement	5
2	Planning experiments and the main steps for employing DOE along with the aids and tools needed for effective applications of DOE	5
3	Selection of appropriate designs for comparative and factorial experiments	10
4	Assignments of the factors to the selected design: the concept of full & fractional factorial experiments & confounding (aliasing)	5
5	Analyzing Experimental data: Graphical tools, Half Normal Probability Plot, ANOVA & Regression Analysis, Data	10
6	Interpreting & presenting experimental results & Case Studies	5
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	Recognize concepts for designing industrial experiments.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
…			
2.0	**Skills**		
2.1	Use statistical design approaches to plan experiments including the formulation of the problem under-study, the identification of the objectives, the selection of the relevant variables or parameters to be examined & the determination of the appropriate performance measures.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
2.2	Develop an ability to effectively and efficiently design and execute industrial experiments.		
2.3	Adopt necessary skills for analyzing the experimental data and interpreting the obtained results so that reliable conclusions can be drawn.		
2.4	Communicate and draw conclusion effectively using design of experiments approaches.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizzes	Continuous Assessment	10%
5	Project	During 11th Week	15%
6	Final Exam	During 12th Week	40%
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard
- Tutoring

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Montgomery D.C. (2009), Design and Analysis of Experiments, 7th Ed., John Wiley and Sons, N.Y, ISBN: 978-0-470-39882-1
Essential References Materials	Mathematical Statistics and Data Analysis", John A. Rice, 2nd Edition, Duxbury Press, .2010
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

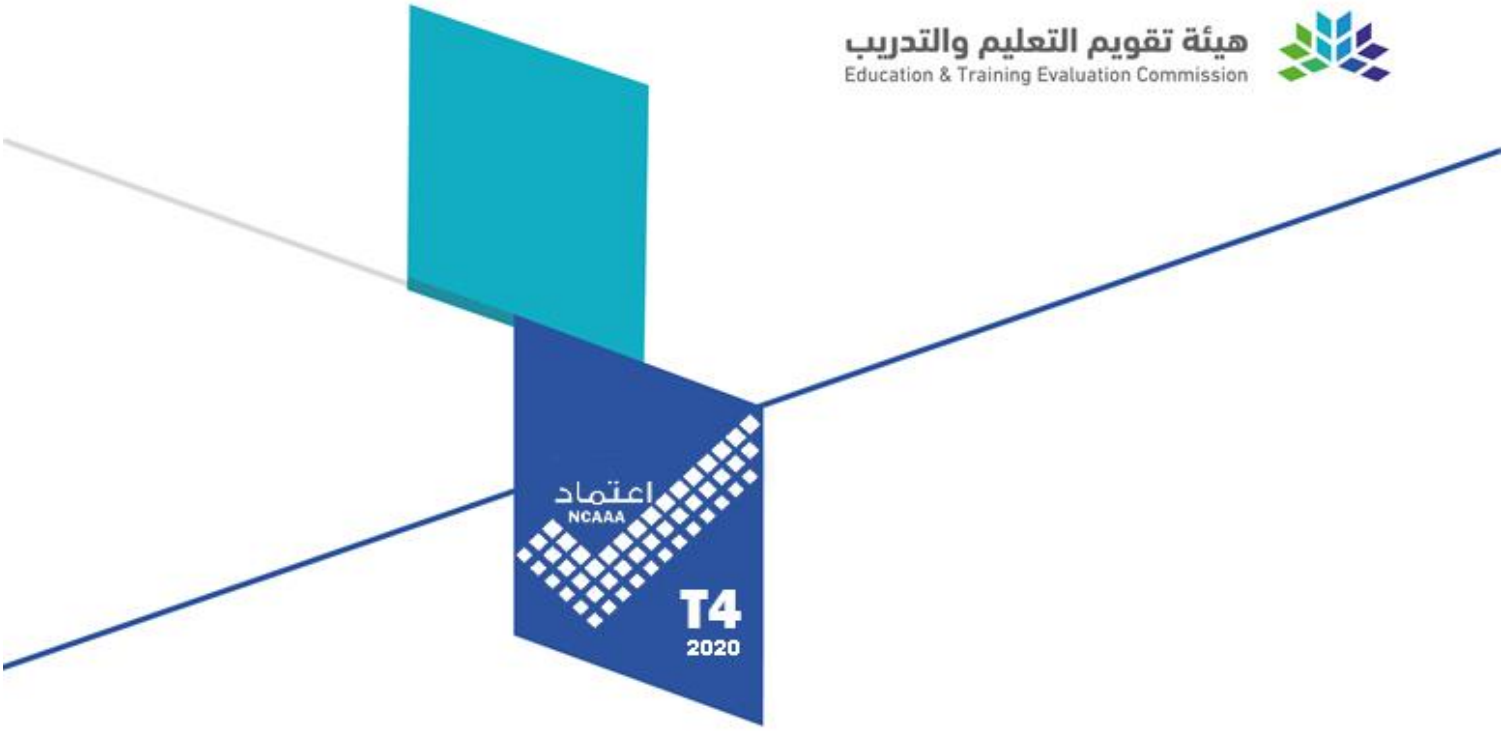
G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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	



توصيف المقرر الدراسي

اسم المقرر:	توصيف مقرر الثقافة الإسلامية (٣)
رمز المقرر:	ICC3203
البرنامج:	البكالوريوس
القسم العلمي:	الدعوة والثقافة الإسلامية
الكلية:	الدعوة وأصول الدين
المؤسسة:	جامعة أم القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة:

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)

ثقافة إسلامية ١٠١ ، ثقافة إسلامية ٢٠١

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**	**لا ينطبق**	**لا ينطبق**
2	**لتعليم المدمج**	**لا ينطبق**	**لا ينطبق**
3	**التعليم الإلكتروني**	**لا ينطبق**	**لا ينطبق**
4	**التعليم عن بعد**	٢٠	%٩٠,٩٠
5	**أخرى: (الاختبارات النصفية والنهائية)**	٢ساعتان	%٩,٠٩

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات: (بواقع ساعتين في الأسبوع لمدة ١٠ أسبوعا)	٢٠
٢	معمل أو استوديو	لا ينطبق
٣	دروس إضافية	لا ينطبق
٤	أخرى (تذكر): (الاختبارات النصفية والنهائية)	٢ ساعتان
الإجمالي		٢٢

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

يقدم هذا المقرر مادة علمية تأصيلية يبين فيها أهمية الأسرة والمجتمع، من حيث مفهومها، ومكانتها، ومقاصد بنائها، وهدي الإسلام في حل المشكلات والتعامل معها، وكما يقدم دراسة تحليلية لأسرتي خليلي الرحمن: إبراهيم ومحمد عليهما الصلاة والسلام.

٢. الهدف الرئيس للمقرر:

- التعرف على أهمية الأسرة ومكانتها.
- إدراك وسطية الإسلام في تعزيز قيمة الأسرة والمجتمع.
- بيان مراعاة الشريعة لحفظ الضرورات الخمس.
- تعريف الطالب بمسؤوليته تجاه مجتمعه.
- التعريف بأسرة إبراهيم عليه السلام، ومحمد صلى الله عليه وسلم.

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	يعرّف على النظم الإسلامية ومقاصدها ومصادرها وخصائصها	

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1.2	يعدد النظم الإسلامية ومقاصدها ومصادرها وخصائصها	
1.3	يشرح بنظام الأسرة في الإسلام وأهم الشبه المثارة عليه	
1.4	يستعرض مفهوم النظام الاقتصادي الإسلامي وأهم مبادئه	
1.4	يقدم شرحا عن تعريف النظام السياسي في الإسلام وأصوله وحقوق الراعي والرعية	
2	**المهارات**	
2.1	يشرح أهم الشبه المثارة على نظام الأسرة في الإسلام وكيفية الرد عليها	
2.2	يقارن بين النظام الاقتصادي في الإسلام والأنظمة الوضعية	
2.3	حرر مذهب السلف في تحريم الخروج على أئمة المسلمين	
2.4	يفرق بين الحدود والتعازير وقوانين العقوبات الوضعية	
3	**القيم**	
3.1	يشارك زملاءه في الأعمال والتكاليف الجماعية باستقلال ومسؤولية	
3.2	يكون عالقات ناجحة داخل الجامعة وخارجها	
3.3	يتمثل القيم والأخلاق الإسلامية الحميدة	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	**مفهوم الأسرة، وأهميتها، ومقاصدها:** يدرس الطالب في هذه المفردة مفهوم الأسرة، وأهميتها، ومقاصد بنائها من حيث كونها اللبنة الأولى التي تنشأ فيها الأجيال.	٢
٢	**مراحل تكوين الأسرة:** تتطرق هذه المفردة إلى يان مراحل تكوين الأسرة، من فترة البدء في فكرة الزواج ، وحتى تكوين الأسرة بأفرادها: من زوج وزوجة وأبناء	٢
٣	**الواجبات والحقوق بين الزوجين:** يدرس الطالب في هذه المفردة التعريف بأهم الواجبات والحقوق بين الزوجين، سواء الحقوق المفردة أو المشتركة بينهما. **الواجبات والحقوق بين أفراد الأسرة (الإباء، الأبناء، الأرحام):** يدرس الطالب في هذه المفردة التعريف بأهم الواجبات والحقوق بين أفراد الأسرة الواحدة: حقوق الآباء على الأبناء، وحقوق الأبناء على الآباء، والحقوق بين الأقارب والأرحام.	٢
٤	**الخلافات الأسرية، ومنهج الإسلام في التعامل معها:** في هذه المفردة سيتعلم الطالب منهج الإسلام في بناء الأسرة المسلمة، وعلاج الخلافات الأسرية وفق المنهج الرباني.	٢
٥	**المجتمع: مفهومه، مقاصده، سننه:** تتطرق هذه المفردة إلى التعريف بالمجتمع، وخصائصه، والمقاصد الشرعية للاجتماع، والهدي الشرعي في الاجتماع. **الفروض الكفائية والمسؤولية المجتمعية:** يدرس الطالب في هذه المفردة الفروض الكفائية، وعلاقتها بالمجتمع، وتعريفها، وبيان أنواعها، وفضائلها، وأمثلة عليها كمساعدة الفقراء والمساكين، والإحسان إلى الآخرين.. ونحوها.	٢
٦	**الضرورات الخمس: مفهومها، أهميتها، آثارها:** يدرس الطالب في هذه المفردة مفهوم المحافظة على الضرورات الخمس: الدين، والنفس، والعقل، والعِرض، والمال، وأهميتها، وأثارها الإيجابية على المجتمع.	٢
٧	**نظام الثواب والعقاب وأثره على الفرد والأسرة والمجتمع:** يدرس الطالب في هذه المفردة ما جاءت به الشريعة الإسلامية من نظام الثواب والعقاب، وبيان أثره على الأمن المجتمعي.	٢

٨	**المشكلات الاجتماعية: مظاهرها، علاجها:** تتطرق هذه المفردة إلى المشكلات الاجتماعية، من حيث: تعريفها، وأمثلة عليها، ومظاهرها، وطرق الوقاية والعلاج.	٢
٩	**دراسة تحليلية لأسرة خليل الرحمن إبراهيم عليه السلام، دراسة تحليلية لأسرة النبي محمد ﷺ:** تعنى هاتان المفردتان بدراسة تحليلية لسيرة خليلي الرحمن إبراهيم عليه السلام، ومحمد صلى الله عليه وسلم، ونماذج من سيرتهم الأسرية، كقصة إبراهيم عليه الصلاة والسلام مع ساره وهاجر، ومع إسماعيل عليه السلام، وبناء الكعبة. كذلك قصة حادثة الإفك التي حدثت لبيت النبي صلى الله عليه وسلم. كما تتطرق المفردة إلى كيفية تحليل النص وتطبيقه في حياته الأسرية والاجتماعية.	٢
١٠	**دراسة تحليلية لمجتمع النبي ﷺ في المدينة:** يدرس الطالب في هذه المفردة مجتمع النبي صلى الله عليه وسلم، ومكوناته، ويتعرف على خصائص مجتمع الصحابة رضي الله عنهم.	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	يتعرف على النظم الإسلامية ومقاصدها ومصادرها وخصائصها	المحاضرات والمناقشات	الاختبارات التحريرية والشفوية. أوراق عمل
1.2	يلم بنظام الأسرة في الإسلام وأهم الشبه المثارة عيه	التعلم الذاتي المحاضرات والمناقشات ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	الاختبارات التحريرية والشفوية عرض البحوث والمناقشة
1.3	يحدد مفهوم النظام الاقتصادي الإسلامي وأهم مبادئه	المحاضرات والمناقشات ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	الاختبارات التحريرية والشفوية. أوراق عمل
1.4	يذكر تعريف النظام السياسي في الإسلام وأصوله وحقوق الراعي والرعية	الاستقراء والعصف الذهني المحاضرات والمناقشات	الاختبارات التحريرية والشفوية.
2.0	**المهارات**		
2.1	يشرح أهم الشبه المثارة على نظام الأسرة في الإسلام وكيفية الرد عليها	العصف الذهني الحوار والمناقشة زيارة بعض المواقع الالكترونية التي تعتني بهذا الموضوع	تقييم الأبحاث وأوراق العمل
2.2	يقارن بين النظام الاقتصادي فري الإسلام الأنظمة الوضعية	ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات تكوين ملكة النقد واستخدام أسلوب المقارنة	بحوث وواجبات تقييم قدرة الطلاب على الاستنباط والتحليل
2.3	يحرر مذهب السلف في تحريم الخروج على أئمة المسلمين	التعليم التعاوني الطريقة الاستقرائية	الملاحظة المباشرة والتقييم الجماعي تقييم أبحاث

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
2.4	يفرق بين الحدود والتعازير وقوانين العقوبات الوضعية	التعلم الذاتي التكليف بواجبات	تقييم الأبحاث
3.0	**القيم**		
3.1	يشارك زملاءه في الأعمال والتكاليف الجماعية باستقلال ومسؤولية	التعلم التعاوني الحوار والمناقشة	الملاحظة المستمرة وتقويم الأداء
3.2	يكون علاقات ناجحة داخل الجامعة وخارجها	التعلم التعاوني	الملاحظة المستمرة والتقييم الجما عي
3.3	يتمثل القيم الأخلاق الإسلامية الحميدة	التعليم التعاوني من خلال التكليف بواجبات وأبحاث وأنشطة جماعية التعليم على بناء الشخصية القدوة	الملاحظة المباشرة لسلوك الطلاب وتوجهاتهم

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	الاختبار التحريري والشفوي	منتصف ونهاية الفصل الدراسي	%٦٠
٢	التقويم المستمر	كل أسابيع الدراسة	%١٠
٣	عرض البحوث والمناقشة	التاسع	%١٥
٤	الملاحظة وتقويم الأداء	ابتداء من الأسبوع الرابع	%١٥

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- **تعريف الطالب بالمقرر**
- **متابعة بعض الحالات الفردية التي تحتاج إلى اهتمام خاص.**
- **توجيه الطالب الى كيفية الإفادة من التقنيات الحديثة.**
- **الساعات المكتبية.**
- **ربط جميع الطلاب بمرشدين أكاديميين لمساعدتهم على فهم متطلبات البرنامج وعمليات التسجيل.**
- **نشر جميع معلومات الاتصال الخاصة بعضو هيئة التدريس على الصفحة الرئيسية للمقرر الدراسي على البلاك بورد.**

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	زاد المعاد في هدي خير العباد لابن القيم.
المراجع المساندة	١- السيرة النبوية لابن هشام. ٢- كتاب النكاح من خلال كتب السنة وشروحها. ٣- تحفة المودود بأحكام المولود لابن قيم الجوزية.
المصادر الإلكترونية	المكتبة الرقمية السعودية
أخرى	

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعة دراسية مجهزة افتراضية مكتبة اليكترونية
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	أجهزة حاسوب مرتبطة بالنت قاعات افتراضية
تجهيزات أخرى (تبعاً لطبيعة التخصص)	لا يوجد

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	أعضـــاء هيئة التدريس، الطالب، إدارة القسم، لجنة الجودة	غير مباشر (الاستبانات)
فاعلية طرق تقييم الطالب	المراجع النظير	مراجعة عينات عشـــوائية من أوراق إجابات الطلاب
مدى تحصيل مخرجات التعلم	قيادات البرنامج	تقييم 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	مجلس القسم
رقم الجلسة	
تاريخ الجلسة	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Industrial Quality Control**
Course Code:	**IE3404**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Ninth Semester / Third Year
4. Pre-requisites for this course (if any)**: Advanced Engineering Statistics**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The course is composed of two parts: Statistical quality control and Total Quality Management.
The first part includes an Introduction to quality systems, Statistica1 control methods of quality control (SQC) and process control (SPC) such as Histogram distribution method, Control Charts for Variables and Attributes (x-chart, R-chart, p-chart, c-chart), Acceptance Sampling and Process Capability Analysis. The description of the set of statistical tools are used to describe quality characteristics and relationships.
The second part covers organizational and procedures issues about the control of process and management information that are required for quality certifications within a general methodology called "Total Quality Management" (TQM). It addresses the quality assurance standards, awards, and the templates (application forms) provided for accreditation and approval of the quality certificates. This covers the definitions and the evolution of the concepts of TQM, the Quality measurement and monitoring, the roles of the Quality Department in planning and improving management performances, and the quality systems such as ISO 9000 and ISO 14000.

2. Course Main Objective

1. What is the main purpose for this course?
    - The basic methods of statistical process and quality control (SPC, SQC) as problem solving tools and methods for process capability analysis and statistical inferences
    - Describing the statistical basis of control charts for variables and attributes
    - Developing teamwork for meeting challenges in professional life
    - Building professional skills and ethical behaviors in professional life
    - Recognized international quality systems: ISO 9000 and ISO 14000, environmental quality systems, food quality and safety system
    - The ability to use certain standards in quality and the ability to deal with customer requirements
    - Provide tools that are used to implement quality management systems in any organization.
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):

Use of data show.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of quality improvement, tools-lean enterprise, value stream	K2
1.2	Comprehend six sigma, statistical aspects, improvement methodology.	K2
1.3		
1...		
2	**Skills:**	
2.1	Understand the basic principles and techniques of Pareto diagram, Cause-and-effect diagram, check sheets, scatter diagram and histogram	S1
2.2	Understand the frequency distribution, measures of central tendency and dispersion, concept of population and sample, the normal.	S1
2.3	Explore the advanced features of control chart techniques, specifications, process capabilities, six sigma, other control charts.	S2
2.4	Understand Additional SPC techniques for variables.	S2
2.5	Understand Fundaments of probability; basic concepts, Discrete probability distribution, Continuous probability distribution.	S3
2.6	Explain/Use the Control charts for attributes: control charts for nonconforming units, a quality rating system.	S3
2.7	Explain Lot-by-Lot acceptance sampling by attributes.	S3
2.8	Understand the basic principles fundamental concepts, statistical aspects, sampling plan design.	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Quality Control and Management	2
2	Basic Statistical Quality Control Tools: Histogram Frequency Distribution Method	6
3	Control Charts for Variables: R-Chart and X-Chart	6
4	Control Charts for Attributes: p-Chart and c-Chart	4
5	Quality-Related Process Capability	4
6	Statistical Quality Costs Analysis	4
7	Principles of Total Quality Management	4
8	Methodology of Total Quality Management and Application: Standards of Information Systems and Administrative Procedures in TQM	4
9	Quality Control Program Requirements and Tasks: Quality Labels and Quality Insurance Systems: ISO 9000 Series	6
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	Develop the knowledge of quality improvement, tools-lean enterprise, value stream	• Lectures • Homework • assignments, Exams and quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
1.2	Comprehend six sigma, statistical aspects, improvement methodology.		
…			
2.0	**Skills**		
2.1	Understand the basic principles and techniques of Pareto diagram, Cause-and-effect diagram, check sheets, scatter diagram and histogram	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • Assignments • Exams and quizzes
2.2	Understand the frequency distribution, measures of central tendency and dispersion, concept of population and sample, the normal.		
2.3	Explore the advanced features of control chart techniques, specifications, process capabilities, six sigma, other control charts.		
2.4	Understand Additional SPC techniques for variables.		
2.5	Understand Fundaments of probability; basic concepts, Discrete probability distribution, Continuous probability distribution.		
2.6	Explain/ Use the Control charts for attributes: control charts for nonconforming units, a quality rating system.		
2.7	Explain Lot-by-lot acceptance sampling by attributes.		
2.8	Understand the basic principles fundamental concepts, statistical aspects, sampling plan design.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quizes	Continuous Assessment	15%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Douglas C. Montgomery, Introduction to Statistical Quality Control, 8th, Wiley.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	• Excel. • Minitab. • R.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture room capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

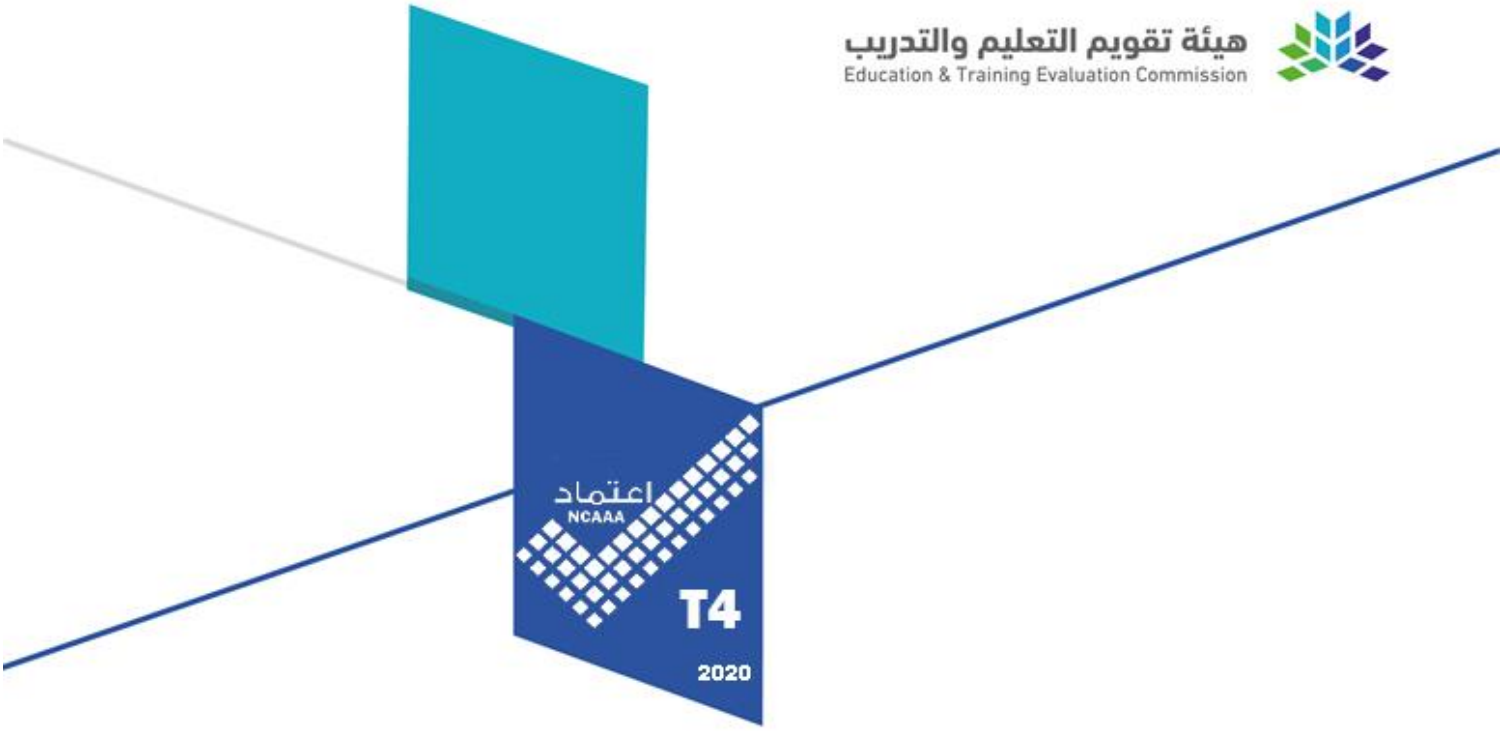
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Human Factors Engineering**
Course Code:	**IE3602**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Ninth Semester / Third Year
4. Pre-requisites for this course (if any)**: Design of Engineering Experiments**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

Introduction to human factors engineering. Muscular work. Nervous control. Work efficiency. Body size and anthropometrics. Workstation design. Heavy work. Handling loads. Man-machine systems. Mental activity. Fatigue. Stress and boredom. Vision and lighting. Noise and vibration.

Human Factors Engineering Lab

The lab includes anthropometric measurements, application of anthropometric data in workstation design, vision testing, strength measurements, audiometry, reaction time, physical work capacity through heart rate and oxygen consumption, & manual material handling.

2. Course Main Objective

1. What is the main purpose for this course?

At the end of the course the students will be able to:

- Explain the basic concepts of human factors engineering.
- Solve human factors problems and implement them.
- Explain the impact of environmental factors such as illumination, noise, and vibration.
- Develop verbal and written communication skills through written reports and presentations.
- Use ergonomic tools/ techniques to conduct experimental and analytical studies.
- Work in a Team and communicate effectively

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):

- Changes in content as a result of new research in the field

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Explain the basic concepts of human factors engineering	K1
1.2	Identify human factors problems.	K2
1.3	Explain the impact of environmental factors such as illumination, noise, and vibration.	K2
1...		
2	**Skills:**	
2.1	Analyze the real-life human factor problems.	S1
2.2	Apply ergonomic tools/ techniques to conduct experimental and analytical studies.	S2
2.3	Solve human factors problems in industry.	S4
2.4	Develop written communication skills.	S5
2.5	Communicate effectively during teamwork.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Foundational Ergonomics	2
2	Senses of the Human Body	4
3	Engineering Anthropometry and Workspace Design (Body Size):	6
4	Biomechanics of Work	4
5	Heavy Work and Evaluating Physical Workloads and Lifting Heavy Work	4
6	Workload and Stress	3
7	Muscular Work & Nervous Control of Movements	3
8	Information Ergonomics, Controls and Displays	4
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	Explain the basic concepts of human factors engineering	• Lectures • Homework • Assignments • Exam & Quizzes	• Tested by giving them exams and quizzes • Given homework assignments
1.2	Identify human factors problems.		
1.3	Explain the impact of environmental factors such as illumination, noise, and vibration.		
2.0	**Skills**		
2.1	Analyze the real-life human factor problems.	• Case studies are followed by numerous examples for Anthropometric measurements, Application of Anthropometric data in Workstation Design, Vision testing • Engage students in classroom interaction with for Strength Measurements, Audiometry, Reaction Time, Physical work capacity through Heart rate and Oxygen Consumption, & Manual material Handling. • Assignment is given to the students at regular intervals for them to solve and submit.	• Assignments • Exams and quizzes • Visits some local factories for solving problems associated with measurement technology and preparation project for presentation • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades • Presenting and discuss in classroom
2.2	Apply ergonomic tools/ techniques to conduct experimental and analytical studies.		
2.3	Solve human factors problems in industry.		
2.4	Develop written communication skills.		
2.5	Analyze the real-life human factor problems.		
2.6	Apply ergonomic tools/ techniques to conduct experimental and analytical studies.		
2.7	Solve human factors problems in industry.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
		• Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific factory	
2.8	Communicate effectively during teamwork.	• Report Presentation	• Presenting and discuss in classroom
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	25%
3	Quizes	Continuous Assessment	10%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Bush, P. M. (2012). Ergonomics Foundational Principles, Applications, and Technologies. Taylor and Francis (CRC Press), US.
Essential References Materials	Christopher D. Wickens, John D. Lee, Yili Liu, Sallie Gordon-Becker, Introduction to Human Factors Engineering, 2nd Edition.
Electronic Materials	Lecture material in PPT
Other Learning Materials	Kromer, K.H. (2008). Fitting the human: Introduction to Ergonomics. 6th ed. Taylor and Francis (CRC Press), US and Anthropometric measurements, Application of Anthropometric data in Workstation Design, Vision testing

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture room capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

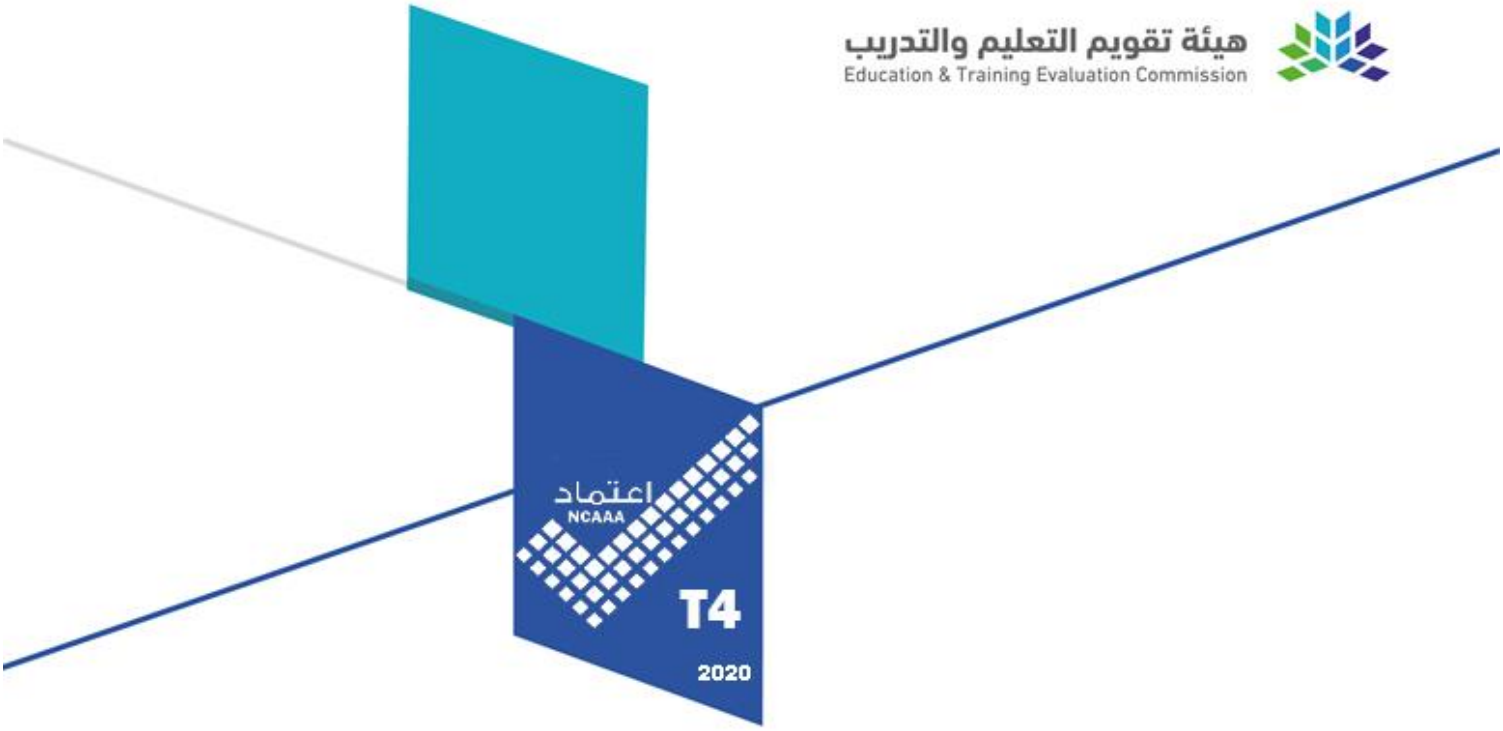
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Industrial Cost Analysis**
Course Code:	**IE3205**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Ninth Semester / Third Year
4. Pre-requisites for this course (if any)**: Engineering Economy**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Basic principles of industrial costs. Importance of cost analysis in engineering. Fundamental knowledge, both theoretically and practically on cost terms and concepts, cost accounting and control mechanism in different scales projects and organizations. Cost estimation for decision-making: cost-volume-profit analysis, measuring relevant costs and revenues, cost assignment and activity-based costing. Cost evaluation of engineering alternatives. Case studies. The course intends to equip students with industrial accounting and economy strategies for engineers and project managers.

2. Course Main Objective

By the completion of the course, the student should be able to:

1. Know the concepts of industrial cost analysis.
2. Apply knowledge of engineering economics and accounting.
3. Understand the concepts of cost analysis, cost terms and management accounting.
4. Calculate and apply cost-volume-profit analysis.
5. Make decisions by measuring relevant cost and revenues.
6. Calculate and explain the cost assignment.
7. Compute and explain activity-based costing.
8. Use the techniques, skills and modern engineering tools necessary for cost decision practices.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Know the concepts of industrial cost analysis.	K2
1.2		
1.3		
1...		
2	**Skills:**	
2.1	Apply knowledge of engineering economics and accounting.	S2
2.3	Identify, formulate, and solve cost-related engineering problems.	S3
2.4	Recognize professional and ethical responsibility.	S4
2.5	Use the techniques, skills, and cost analysis tools necessary for engineering practice.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Intro: cost assignment	2
2	Factors influencing choice of an optimal cost system	6
3	The differences between costing systems	6
4	Joint and by-product costing	4
5	Cost-volume analysis	4
6	Opportunity and process costs	6
7	The relevance of cost and revenues for decision-making	6
8	Queue theory and logistics in industrial projects	6
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	Know the concepts of industrial cost analysis.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
1.2			
…			
2.0	**Skills**		
2.1	Apply knowledge of engineering economics and accounting.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
2.2	Identify, formulate, and solve cost-related engineering problems.		
2.3	Recognize professional and ethical responsibility.		
2.4	Use the techniques, skills, and cost analysis tools necessary for engineering practice.		
2.5			
3.0	**Values**		
3.2	Comprehend effectively as a member or a leader of a team engaged in	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	activities appropriate to the program's discipline		
…	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizzes	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Cost-Benefit Analysis (4th Edition) (The Pearson Series in Economics) 4th Edition
Essential References Materials	William N. Lanen, Shannon W. Anderson, Michael W. Maher, Fundamentals of Cost Accounting, 3rd Edition, McGraw-Hill Irwin.
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

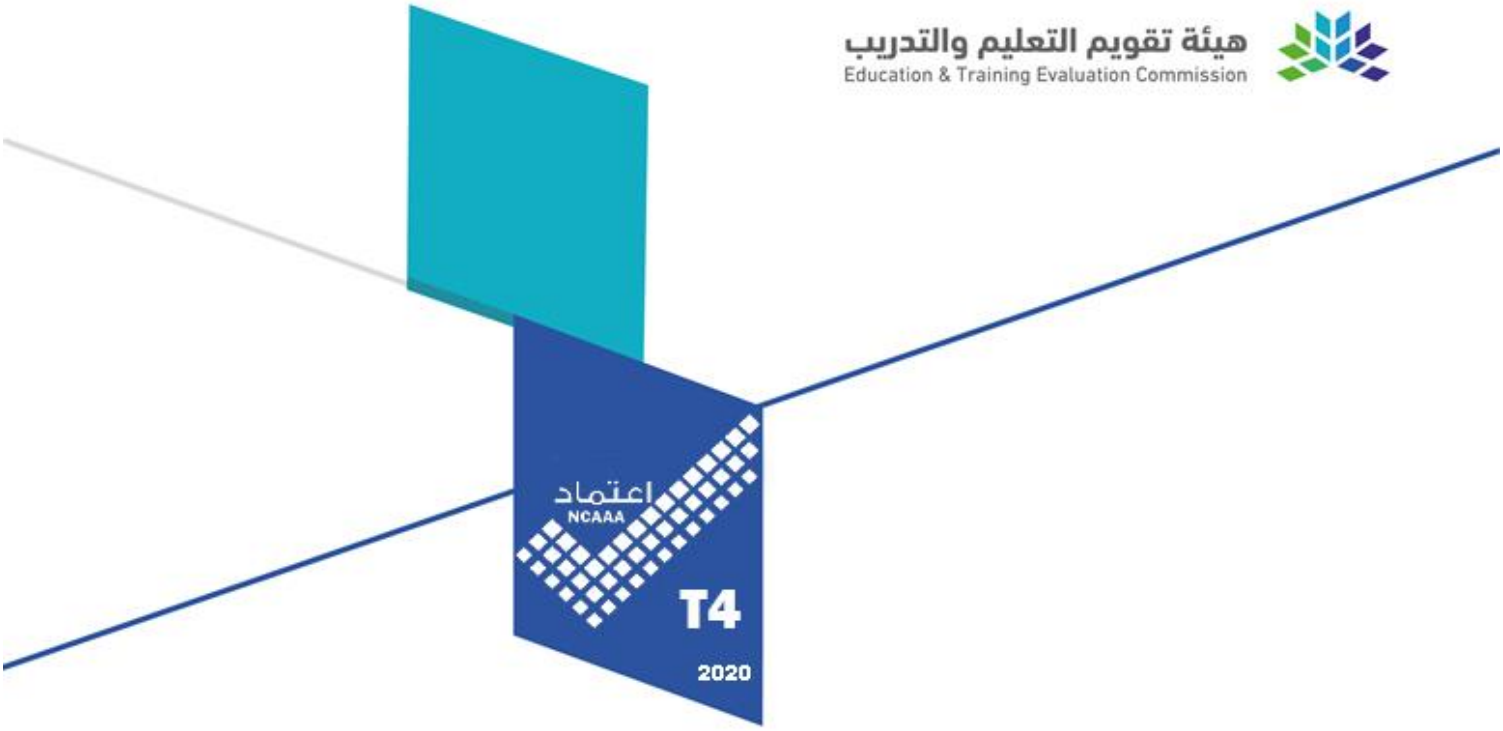
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Manufacturing Processes (1)**
Course Code:	**IE3801**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Ninth Semester / Third Year
4. Pre-requisites for this course (if any)**: Materials Science**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

The basic engineering materials and their structure and properties. Metal forming: Mechanical behavior and forming of metals, different types of mechanical behavior and main factors affecting it. Yield criteria, representative stress and representative strain, work due to plastic deformation, classification of forming processes with respect to strain rate and temperature. Temperature rises in dynamic forming. Bulk deformation processes: forging, extrusion, rolling, rod and wire drawing. Sheet forming processes: blanking, deep drawing and bending.

2. Course Main Objective

1. What is the main purpose for this course?

After successfully completing this course, students will be able to demonstrate that they can do the following:

- State basic (mechanical, physical and engineering) properties of materials and apply these properties to manufacturing process and product design.
- Compare and contrast the design and production advantages of traditional manufacturing processes.
- Mechanical manufacturing processes (casting, forming, machining, and joining).
- Evaluate material-process-geometry relationships in manufacturing processes.
- Differentiate advanced mechanical manufacturing processes e.g., micro-scale and nano-scale technologies.

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

Assigning a project that is presented to speak about a product and its detailed manufacturing processes and the engineering material(s) used in production and its structure and properties.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of Manufacturing technology.	K2
1.2	Comprehend the different types of manufacturing processes.	K2
1.3		
1...		
2	**Skills:**	
2.1	Understand the basic principles and techniques of Casting processes	S1
2.2	Understand the different metal forming processes and tooling used for these operations.	S1
2.3	Explore the advanced features of the modern forming processes.	S1
2.4	Explain/ Use the working principles of different casting processes.	S2
2.5	Explain the methods of Manufacturing Technology (GT) and develop some ability to design mold cavity.	S3
2.6	Analyze & solve a real-life problem for casting & forming process.	S4
2.7	Write a report on metal forming processes and submit on time	S5
2.8	Improve communication skills with industry for applying manufacturing processes.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Metals	4
2	Heat treatment	3
3	Casting Processes	4
4	Bulk forming Processes	4
5	Sheet forming Processes	4
6	Powder Metallurgy	4
7	Polymers	4
8	Joining	3
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	Develop the knowledge of Manufacturing technology.	• Lectures • Homework • Assignments • Project • Exam & Quizzes • Lab Sessions	• Tested by giving them a quize per chapter • Given homework assignments
1.2	Comprehend the different types of manufacturing processes.		
…			
2.0	**Skills**		
2.1	Understand the basic principles and techniques of Casting processes	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the forming processes • Engage students in classroom interaction with making practice • Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific factory	• Homework • Assignments • Exams and quizzes • Visits some local factories for solving problems associated with measurement technology and preparation project for presentation • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades • Discussion in the classroom
2.2	Understand the different metal forming processes and tooling used for these operations.		
2.3	Explore the advanced features of the modern forming processes.		
2.4	Explain/ Use the working principles of different casting processes.		
2.5	Explain the methods of Manufacturing Technology (GT) and develop some ability to design mold cavity.		
2.6	Analyze & solve a real-life problem for casting & forming process.		
2.7	Student will take the responsibility to write a report on metal forming processes and submit on time		
2.8	Improve communication skills with industry for applying manufacturing processes.		
2.9	Analyze and report in details engineering materials and their structure and properties used to produce a product based on traditional manufacturing processes (Project)		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer
   - Tutoring
   - Factory Trip
   - Prototyping of products drawing on Solid software and how these products are manufactured in lab

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Groover, M.P., Fundamentals of Modern Manufacturing (Materials, Processes and Systems), 4th edition. New York NY: John Wiley & Sons.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	Serope Kaplakjian and Steven Schmid. Manufacturing Engineering and Technology 7th Edition. Pearson.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Manufacturing laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

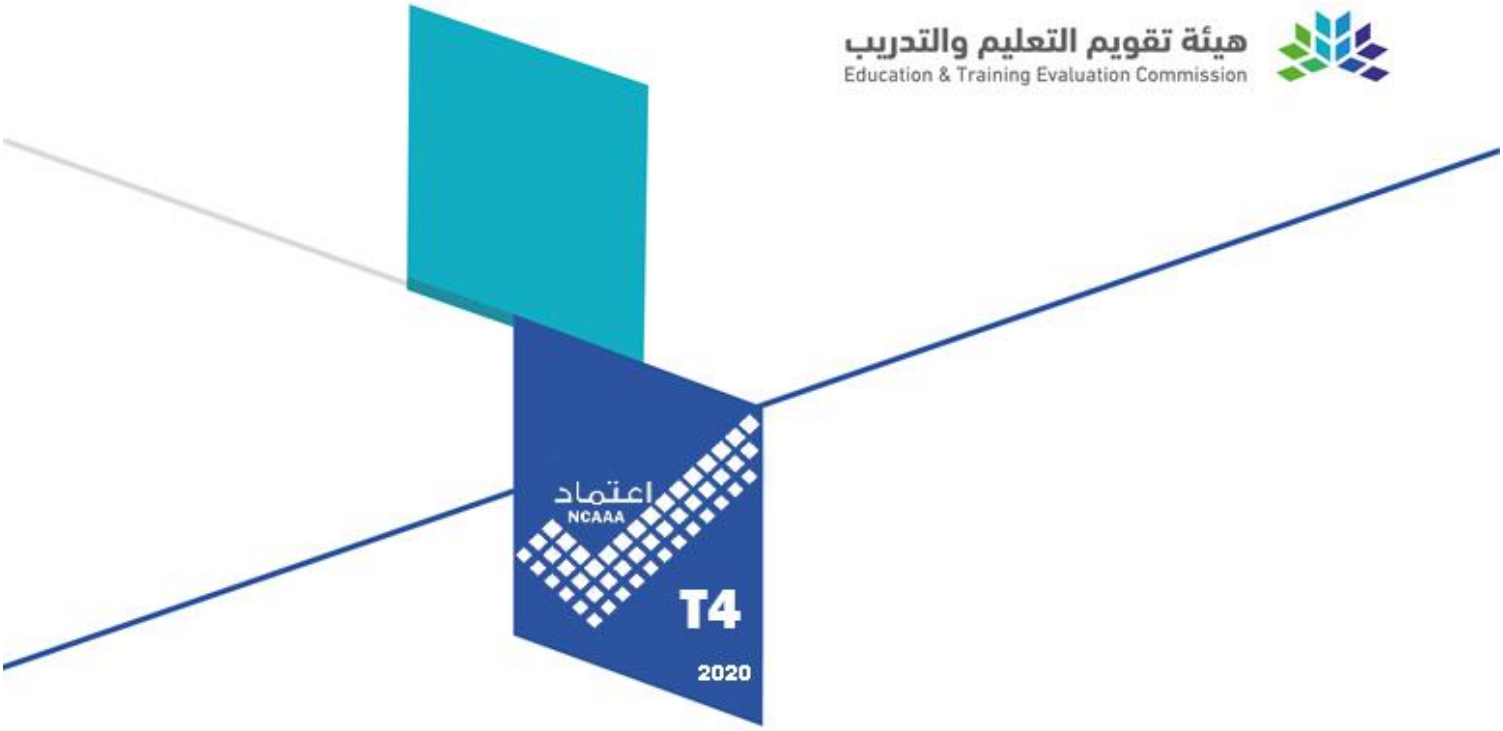
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Manufacturing Processes (2)**
Course Code:	**IE4802**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Tenth Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Manufacturing Processes (1)**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

Cutting dynamics: Chip formation, Chip types, cutting forces, Power and Energy, Shear angle vs. Shear stress. Machining processes: Conventional machining processes, turning operations, Drilling operations, Milling operations, Other machining operations, tool life, tool geometry, tool materials, cutting tool materials, cutting fluids. Machinability and Product design consideration in machining. Non-traditional machining processes: Mechanical energy processes - electrochemical machining processes - thermal energy processes - chemical machining, CNC (Computer Numerical Control) operations, Industrial Robotics.

Manufacturing processes (2) Lab
Laboratory experiments dealing with basic material processing operations. Fits and tolerances

2. Course Main Objective

1. What is the main purpose for this course?

After successfully completing this course, students will be able to demonstrate that they can do the following:

- find the appropriate single-point machining and multiple-cutting edge, taking tool material and machine constraints into consideration.
- find optimal speed by two formulas to maximize production rate or Minimize unit cost
- Comprehend the principles and appropriateness of non-traditional machining processes
- Select a suitable manufacturing process in order to achieve the specified product performance and design criterion while considering cost.

Comprehend basics of NC/CNC operations

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): changes in content as a result of new research in the field

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Describe the method of metal cutting	K2
1.2	Comprehend the different types of cutting machines especially drilling, milling and lathe machines	K2
1.3	Describe the method of cutting for other machining	K2
1.4	Comprehend the New technology by CNC machining	K2
2	**Skills:**	
2.1	Apply the basic principles and techniques of machining processes	K1
2.2	Use the different machining operations and tooling used for these operations.	K2
2.3	Find the advanced features of the modern machining centers	K2
2.4	Use the principles of Abrasive Machining Processes	K3
2.5	Use the principles of Non-traditional Machining Processes	K3
2.6	Discover the working principles of different types of Non-traditional Machining Processes	K4
2.7	Apply the working principles of Computer Numerical Control	K4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Theory of Metal Cutting	2
2	Machining Operations	6
3	Cutting Tool Technology	4
4	Economics of Metal Cutting Operations	4
5	Abrasive Processes	3
6	Non-traditional Machining Processes	6
7	Computer Numerical Control	3
8	Industrial Robotics	2
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	Describe the method of metal cutting	• Lectures • Homework • assignments	• Given homework assignments • Exams and quizzes
1.2	Comprehend the different types of cutting machines especially drilling, milling and lathe machines		
1.3	Describe the method of cutting for Other machining		
1.4	Comprehend the New technology by CNC machining		
2.0	**Skills**		
2.1	Apply the basic principles and techniques of machining processes	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • Assignments • Exams and quizzes
2.2	Use the different machining operations and tooling used for these operations.		
2.3	Find the advanced features of the modern machining centers		
2.4	Use the principles of Abrasive Machining Processes		
2.5	Use the principles of Non-traditional Machining Processes		
2.6	Discover the working principles of different types of Non-traditional Machining Processes		
2.7	Apply the working principles of Computer Numerical Control		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizes	Continuous Assessment	10%
4	Lab Exam	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Groover, M.P., Fundamentals of Modern Manufacturing (Materials, Processes and Systems), 4th edition. New York NY: John Wiley & Sons.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Manufacturing laboratory available

Item	Resources
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

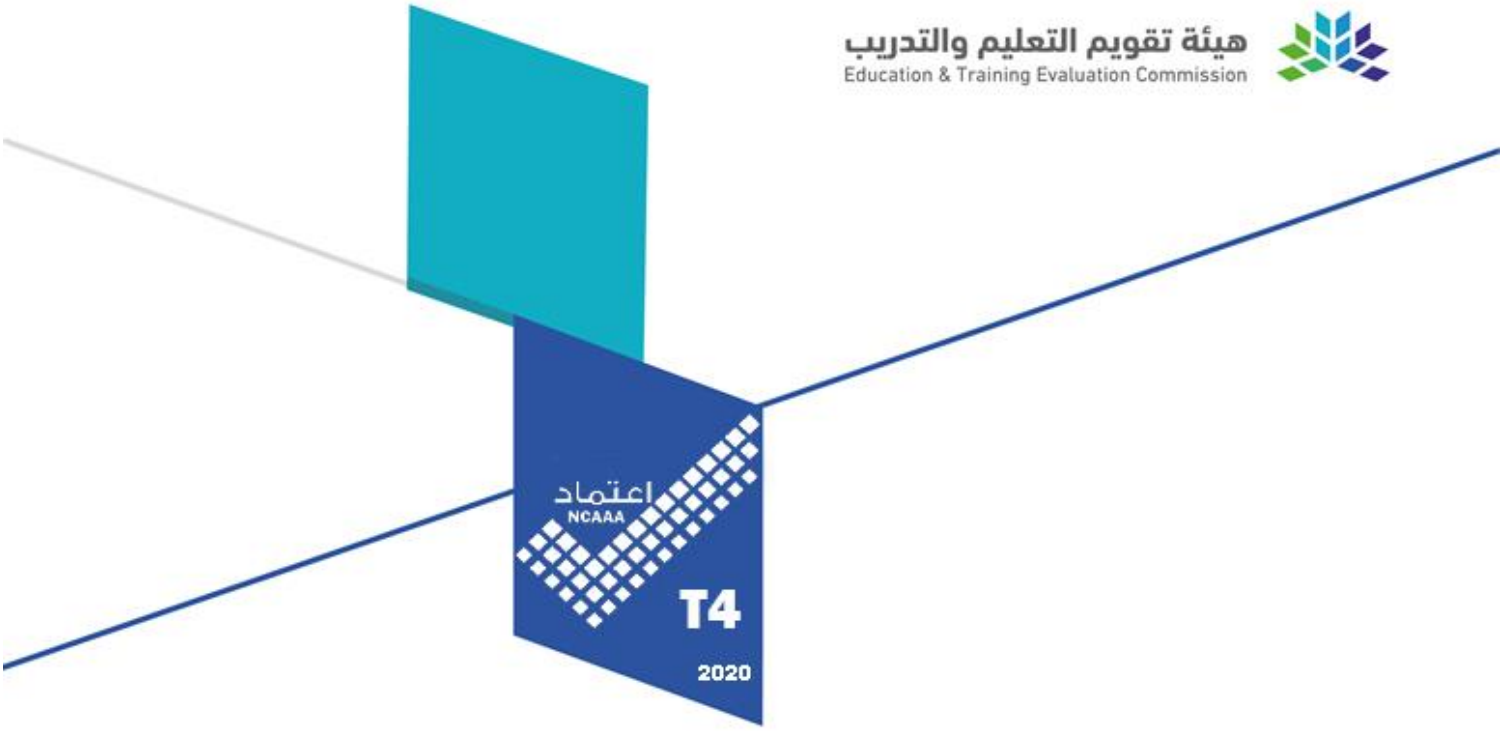
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Reliability Engineering**
Course Code:	**IE4405**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Tenth Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Industrial Quality Control**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Reliability of components and multi-component systems. Application of quantitative methods to the design and evaluation of engineering and industrial systems and processes for assuring reliability of performance. Economic and manufacturing control activities related to product engineering aspects of reliability. Principles of maintainability. Product failure and legal liability.

2. Course Main Objective

By the completion of the course, students should be able to:

1. Analyze and apply strategic improvement processes, specifically Reliability & Weibull Analysis, RCM & FMECA, TBM, PdM, RBI, and TPM.
2. Formulate reliability specifications/ requirements for engineered systems.
3. Formulate and use reliability / availability / maintainability models for use in analysis and prediction.
4. Develop and execute reliability test plans, and properly analyze their results.
5. Perform basic analyses of human hazards, safety, and risks.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Describe and identify improvement processes through reliability systems.	K2
1.2	Describe failure distributions and principal steps and basis of failure analysis techniques and reliability models.	K2
1.3	Describe reliability models and tests in system analysis and prediction.	K2
1.4		
2	**Skills:**	
2.1	Formulate reliability specifications/ requirements for engineered systems	S1
2.2	Develop and execute reliability test plans, and properly analyze their results.	S3
2.3	Estimate systems reliability for the independent & dependent cases as well as related characteristics and design systems for better reliability and maintainability	S4
2.4	Apply various computational maintenance KPI measures and reliability-related performance evaluation	S4
2.5		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to the concept of reliability, machines and systems dependability (reliability, availability, maintainability, and safety): concepts and principle measures	4
2	Markov processes and other probability-related techniques in maintenance management et reliability assessment	8
3	Failure distributions and analysis, default signature and detection, Breakdown prediction; Constant Failure Rate Model, Time-Dependent Failure Models, Reliability models, Hazard rate & wear out models.	8
4	Reliability management concepts and programs, including risk management, life cycle management, system safety, and resilience	8
5	Modeling and simulation methods to support reliability analyses	8
6	Reliability testing and redundancy	4
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	Describe and identify improvement processes through reliability systems.	• Lectures • Homework • Assignments	• Exams and quizzes • Given homework assignments
1.2	Describe failure distributions and principal steps and basis of failure analysis techniques and reliability models.		
1.3	Describe reliability models and tests in system analysis and prediction.		
1.4			
2.0	**Skills**		
2.1	Formulate reliability specifications/ requirements for engineered systems	• Lectures • Homework • Assignments • Project	• Exams and quizzes • Given homework assignments • Project
2.2	Develop and execute reliability test plans, and properly analyze their results.		
2.3	Estimate systems reliability for the independent & dependent cases as well as related characteristics and design systems for better reliability and maintainability		
2.4	Apply various computational maintenance KPI measures and reliability-related performance evaluation		
2.5			
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments Tasks*	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th 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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Alessandro Birolinin, Reliability Engineering: Theory and Practice, 8th Edition, Springer.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Six Sigma and Lean Manufacturing**
Course Code:	**IE4406**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Tenth Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Industrial Quality Control**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

This course is designed to introduce students to key concepts and techniques used in Lean and Six Sigma, two well-known methodologies with proven business impact. Application to a wide variety of industries and functions will be examined throughout the course.

2. Course Main Objective

By the completion of the course, students should be able to:

1.1 Identify and define key terms associated with Quality Control.

1.2 Describe the origins, framework and basic terminology associated with both Lean and Six Sigma.

1.3 Describe specific techniques associated with structured problem solving.

1.4 Identify and/or discuss actual or potential application of Lean and Six Sigma in various settings

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify and define key terms associated with quality control.	K2
1.2	Describe the origins, framework and basic terminology associated with both Lean and Six Sigma.	K2
1.3	Describe specific techniques associated with structured problem solving.	K2
1.4	Identify and/or discuss actual or potential application of Lean and Six Sigma in various settings	K2
2	**Skills:**	
2.1	Apply statistical approaches on six sigma and lean.	S2
2.2	Use and apply six sigma concepts to solve real-life problems.	S4
2.3	Use and apply lean concepts to solve real-life problems.	S4
2.4	Manage successfully team projects to implement six sigma and lean approaches.	S5
2.5		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Six Sigma and lean	2
2	Basics of quality improvement	6
3	Statistics for Six Sigma	6
4	Six Sigma DMAIC Framework (Define, Measure, Analyze, Improve, Control)	8
5	Six Sigma DMADV Framework (Define, Measure, Analyze, Design, Verify)	8
6	Lean models	4
7	Lean: Identify value, map value stream, create flow, establish pull, seek perfection)	6
8		
9		
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	Identify and define key terms associated with Quality Control.	• Lectures • Homework • Assignments • Exams and quizzes	• Exams and quizzes • Given homework assignments
1.2	Describe the origins, framework and basic terminology associated with both Lean and Six Sigma.		
1.3	Describe specific techniques associated with structured problem solving.		
1.4	Identify and/or discuss actual or potential application of Lean and Six Sigma in various settings		
…			
2.0	**Skills**		
2.1	Apply statistical approaches on six sigma and lean.	• Lectures are followed by real life examples from industry. • Engage students in classroom interaction with making practice	• Homework • Assignments • Exams and quizzes • Project
2.2	Use and apply six sigma concepts to solve real-life problems.		
2.3	Use and apply lean concepts to solve real-life problems.		
2.4	Manage successfully team projects to implement six sigma and lean approaches.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Team Project	During 11th Week	15%
3	Homework Assignments	Continuous Assessment	10%
4	Quizes	Continuous Assessment	10%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1. Learning Resources

Required Textbooks	An Introduction to Six Sigma and Process Improvement by James R. Evans and William M. Lindsay , Publisher: South-Western College Pub 2005
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

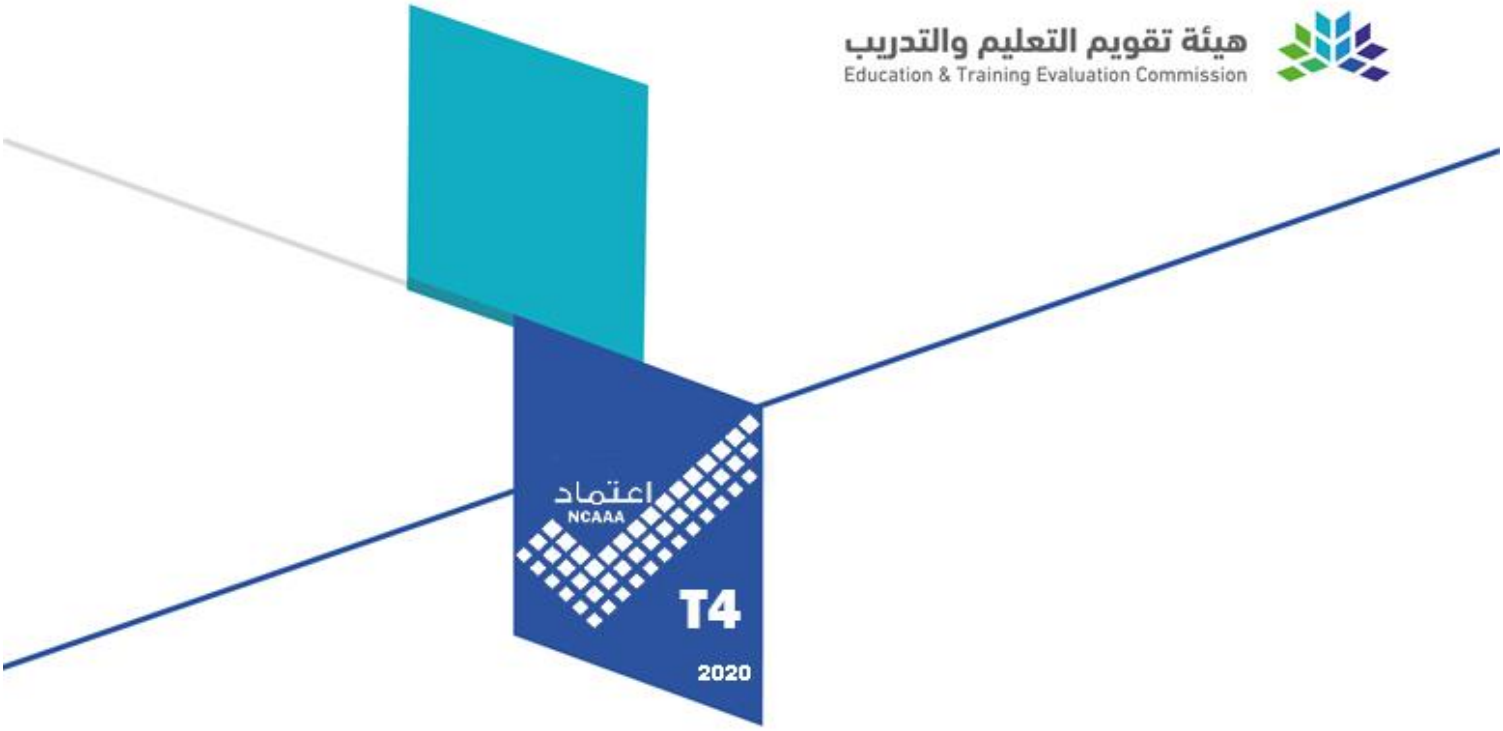
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Industrial Systems Simulation**
Course Code:	**IE4206**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Tenth Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Operations Research (2)**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

This course introduces fundamental principles and concepts in the general area of systems modeling and simulation. Topics to be covered include: the generation of random numbers and random variables, stochastic processes and dynamic systems modeling tools, discrete-event system modeling and simulation, simulation languages and simulator mechanisms, model verification and validation. In addition, mathematical and statistical frameworks for simulation will be presented, models design, and experiment runs for simulation are described and carried out on some important industrial engineering applications and models, in particular operations scheduling, resource selection and allocation, queuing and waiting lines systems, simple inventory system.

2. Course Main Objective

1. What is the main purpose for this course?

   At the end of the course the students will be able to:

   - Provide a comprehensive ability to define, distinguish and describe fundamental simulation concepts and principles in general and Simulation software in particular.
   - Ability to model and analyze systems under investigations, and define the statement of the problem under consideration of describing the statistical basis of Control charts for variables and attributes outcomes
   - Develop a skill to build basic, intermediate, and detailed operation models, analyze input data, verify, validate, well-animate and run these models using Arena and/or Matlab/Simulink simulation software.
   - Develop an ability to design experiments, analyze and interrupt the simulation results, and to present the findings effectively

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):

   - Working with a didactic and professional simulation software's (like Matlab/Simulink, SimEvents and/or Arena).
   - Initiate a learning computer programming club using C language and Matlab programming.

Use specific simulation softwares, for eample for pneumatic automation and CNC machines control workshops like Festo fluidSim and Ciros education (optional)

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify where and how simulation can be beneficial to an organization	K2
1.2	Describe how to successfully plan and manage a simulation project to assist in designing an industrial system	K2
1.3	Distinguish between simulation softwares and languages such as: Arena, Matlab and Simulink	K2
1...		
2	**Skills:**	
2.1	Be able to define the conceptual and computational simulation models and describe how simulation works	S1
2.2	Apply mathematic, probability and statistical tools in data analysis, problem formulation, modeling, and solution generation	S2
2.3	Implement data collection or generation programs, curve fitting for input analysis or transformation, simulation experiments with performance analysis, detailed statistical inferences in simulation output	S3
2.4	Design successfully simulation models using programming, block diagrams or different configurable transfer entities	S3
2.5	Distinguish within practical points of view the benefits and limitations of applying computer simulation in industry	S4
2.6	Manipulate simulation software to examine the performance of a system or prevent future potential system behavior for aware decision-making	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	What is Simulation?	2
2	Fundamental Simulation Concepts: states, events, queue, time control, date structure, conceptual models, simulation languages, introductory lab sessions of simulation programming languages (Matlab programming review)	3
3	Modeling process: Basic Operations and Input, modeling detailed Operations, Intermediate Modeling, Petri net models, Markov chains, models verification and validation	3
4	Simulating and Generating Random Numbers: Lehmer RNG, modeling Input and process data setting, Data Probability distribution, Statistical Framework of Simulation, RNG and importing File Data with Matlab programming sessions	4
5	Basic models to start simulation conceptual models: Single-Server Queue (SSQ), waiting lines systems, SSQ with Matlab and/or Matlab/SimEvent programming sessions	4
6	Basic models to start simulation conceptual models: Simple Inventory System (SIS)	3
7	Model-Based Design and Simulation with Simulink: A Guided Tour through Matlab/Simulink, Entity transfer, block diagram simulation and intermediate modeling	3
8	A Guided Tour through Arena Simulation software: building simple model, three industrial flow simulation cases (SSQ, SIS, scheduling in production lines)	3
9	Statistical Simulation Analysis: Analysis of Output from Terminating Simulations, Steady-State Statistical Analysis, Next-Event Simulation.	3
10	Monte Carlo Simulation: a case study	2
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	Identify where and how simulation can be beneficial to an organization	• Lectures • Homework • Lab sessions • Lab projects assignment	• three exams (theoretical midterm, practical lab, and final exams) • Monthly quizzes • Homework Matlab assignments
1.2	Describe how to successfully plan and manage a simulation project to assist in designing an industrial system		
1.3	Distinguish between simulation softwares and languages such as: Arena, Matlab and Simulink		
2.0	**Skills**		
2.1	Apply mathematic, probability and statistical tools in data analysis, problem formulation, modeling, and solution generation	• Lectures are associated with practical Industrial Engineering examples • A mixture of lectures, tutorials, laboratory exercises, and project case study are used to deliver the topics covered in this subject and to explain further Matlab, Simulink and Arena tools	• Homework • Assignments Exams and quizzes
2.2	Implement data collection or generation programs, curve fitting for input analysis or transformation, simulation experiments with performance analysis, detailed statistical inferences in simulation output		
2.3	Distinguish within practical points of view the benefits and limitations of applying computer simulation in industry		
2.4	Design successfully simulation models using programming, block diagrams or different configurable transfer entities		
2.5	Be able to define the conceptual and computational simulation models and describe how simulation works	• Detailed study of application examples from industrial engineering like Queueing and Inventory models Simulation by hand Exercises	
2.6	Manipulate simulation software to examine the performance of a system	Laboratory exercises to explain further	

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	or prevent future potential system behavior for aware decision-making	Matlab, Simulink and Arena tools	
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Reports, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Lab Report, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Lab Reports	During 11th Week	15%
5	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	• Discrete-Event System Simulation: A First Course, Leemis, Park, Prentice Hall, 2005. • Simulation, Modeling and Analysis with Arena, Elizandro, Taha, Elsevier, 2007 • Simulation of Dynamic Systems with Matlab and Simulink, Harold, Taylor and Francis Group, 2007
Essential References Materials	• Altiok, T. and Melamed B., Simulation Modeling and Analysis with ARENA, Academic Press • Askin, R.G. and Standridge, C.R., Modeling and Analysis of Manufacturing Systems, John Wiley & Sons, Inc.
Electronic Materials	Lecture material in PPT
Other Learning Materials	• Discrete-Event System Simulation, Banks, Carson, Nelson, and Nicol, Prentice-Hall, 2005. • Simulation Modeling and Analysis, Law and Kelton, McGraw Hill, 2000. • Simulation of Industrial Systems: Discrete Event Simulation using Excel/VBA, Elizandro, Taha, Taylor and Francis Group, 2007. • Arena, Matlab/Simulink, SimEvent.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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

توصيف المقرر الدراسي

اسم المقرر:	القرآن الكريم (3)
رمز المقرر:	**(QR3103)**
البرنامج:	**البكالوريوس**
القسم العلمي:	**القراءات**
الكلية:	**الدعوة وأصول الدين**
المؤسسة:	**جامعة أم القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: ساعتان.

2. نوع المقرر

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

ب. إجباري ☑ اختياري ☐

3. السنة / المستوى الذي يقدم فيه المقرر: السنة الثالثة.

4. المتطلبات السابقة لهذا المقرر:

القرآن الكريم (2)

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		
4	التعليم عن بعد	20 ساعة	%100
5	أخرى		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	20 ساعة
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (تذكر)، للاستذكار	
	الإجمالي	20 ساعة

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

يشمل المقرر على أربعة محاور:

1. حفظ نصف الجزء التاسع والعشرين من القرآن الكريم: من سورة الجن إلى سورة المرسلات.
2. تلاوة ثلاثة أجزاء: من سورة الأحزاب إلى سورة الشعراء.
3. دراسة أحكام التَّجويد.
4. شرح غريب الكلمات: من سورة الجن إلى سورة المرسلات.

2. الهدف الرئيس للمقرر

تعليم الطُّلَّاب النُّطق السَّليم لكتاب الله -عزَّ وجلَّ-، وفق طرق الأداء المعتبرة، مع حفظ حزب واحدٍ من القرآن الكريم.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1.1	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.	
1.3	أن يتعرف الطالب على أحكام التجويد.	
1.4	أن يعَرِّف الطَّالب غريب القرآن.	
2	**المهارات**	
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.	
2.3	أن يوضح معاني غريب القرآن.	
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.	
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.	
3	**القيم**	
3.1	أن يعمل ضمن فريق المقرر بكفاءة، ومسؤولية.	
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.	
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	مقدِّمة تعريفيَّة عن فضل تعلم القرآن الكريم، وأقسام اللحن الجلي والخفي، وتصحيح تلاوة سورة الجن من 1 إلى 13 مع التَّكليف بحفظها مع شرح غريب القرآن.	2
2	تسميع سورة الجن من 1 إلى 13، تصحيح تلاوة بقية سورة الجن 14 إلى 28 مع التَّكليف بحفظها، مع شرح غريب القرآن، وتلاوة سورة الشعراء.	2
3	تسميع سورة الجن 14 إلى 28، تصحيح تلاوة سورة المزمل كاملة مع التَّكليف بحفظها. مع شرح غريب القرآن، تلاوة سورة النمل، شرح درس التجويد (الوقف والابتداء)	2
4	تسميع سورة المزمل كاملة، تصحيح تلاوة سورة المدثر من 1إلى 31 مع التَّكليف بحفظهما، مع شرح غريب القرآن، تلاوة سورة القصص.	2
5	تسميع سورة المدثر من 1إلى 31، تصحيح تلاوة سورة المدثر 32 إلى 56 مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة العنكبوت، شرح درس التجويد (السكتات المتفق عليها والمختلف فيها).	2
6	تسميع سورة المدثر 32 إلى 56، تصحيح تلاوة سورة القيامة كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة الروم.	2
7	تسميع سورة القيامة كاملة، تصحيح تلاوة سورة الإنسان كاملة مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة لقمان، شرح درس التجويد (الألفات السبع الثابتة وقفاً، والمحذوفة وصلاً).	2
8	تسميع سورة الإنسان كاملة، تصحيح تلاوة سورة المرسلات مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة السجدة.	2
9	تسميع سورة المرسلات من 1 إلى 34، تلاوة سورة الأحزاب.	2

10	تسميع سورة المرسلات من 35 إلى نهاية السورة.	2
المجموع		20

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	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	المحاضرة التلقي والسماع العروض التقديمية	التقييم المستمر الاختبارات الشفوية
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.		
1.3	أن يتعرف الطالب على أحكام التجويد.		
1.4	أن يعرِّف الطَّالب غريب القرآن.		
2.0	**المهارات**		
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	المحاضرة الحوار والمناقشة التلقِّي والمحاكاة العرض والاستماع التَّعلم الذاتي العروض التقديمية أسلوب حل المشكلات	الاختبارات الشفوية الاختبارات التحريرية
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.		
2.3	أن يوضح معاني غريب القرآن.		
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.		
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.		
3.0	**القيم**		
3.1	أن يعمل ضمن فريق المقرر بكفاءة ومسؤولية.	التَّعلم الذاتي التَّعليم التعاوني حلقات النقاش ملف الإنجاز	بطاقة الملاحظة
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.		
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.		

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	**المشاركة وحفظ الآيات وتلاوتها**	مستمر	%20
2	**الاختبار النصفي**	السادس	%20
3	**الاختبار النهائي**	العاشر	%60

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

هـ ـ أنشطة الإرشاد الأكاديمي والدعم الطلابي:

– ساعات الإرشاد الأكاديمي (السَّاعات المكتبية للأستاذ).
– مساعدة الطلبة في توفير المصادر غير المتوفرة في مكتبة الكلِّيَّة.
– مساعدة الطلبة ذوي الاحتياجات الخاصة (ذوي البصيرة) في توفير المصادر ببرايل.
– إحالة الطلبة الوافدات والمتعثرات والموهوبات على لجنة الإرشاد الأكاديمي بالقسم والجهات المعنيَّة بشؤون الطَّلبة.
–تشكيل لجنة تطوير المقرَّرات بالبرنامج، تعنى بمراجعة المفردات وطرق تدريسها وتقييمها، وتقييم المخرجات من خلال المتابعة المستمرة للتَّغذية الرَّاجعة من قبل الطَّلبة وتقارير المدرِّسين، ثم تقدِّم توصياتها لمجلس القسم لتأخذ مجراها الأكاديمي.
–إعداد الأسئلة التَّقويميَّة نهاية الدَّرس والأنشطة المنزليَّة.
–توجيه الطُّلاب لسماع تلاوات المقرئين المجوِّدين من خلال الوسائل المتاحة.
–المقارنة المرجعيَّة بالمقرَّرات المشابهة له في الجهات الأكاديميَّة الأخرى.

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	–القرآن الكريم. – الميسر في غريب القرآن الكريم المطبوع بمجمع الملك فهد لطباعة المصحف الشريف. – التجويد الميسر المطبوع بمجمع الملك فهد لطباعة المصحف الشريف.
المراجع المساندة	- البرهان في تجويد القرآن/ محمد الصادق قمحاوي. - هداية القارئ إلى تجويد كلام البارئ/ عبد الفتاح السيد عجمي المرصفي. - مذكرة في علم التجويد/ محمد نبهان بن حسين مصري.
المصادر الإلكترونية	- موقع مكتبة جامعة أم القرى. - المكتبة الوقفية. - المكتبة الشاملة. - ملتقى أهل التفسير. - منتديات قراء القرآن.
أخرى	-

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	–قاعات دراسية بها عدد من الكراسي والطاولات للاختبارات النصفية والنهائية.
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	– الحاسب الآلي. – التطبيقات الالكترونية.
تجهيزات أخرى (تبعاً لطبيعة التخصص)	-

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم

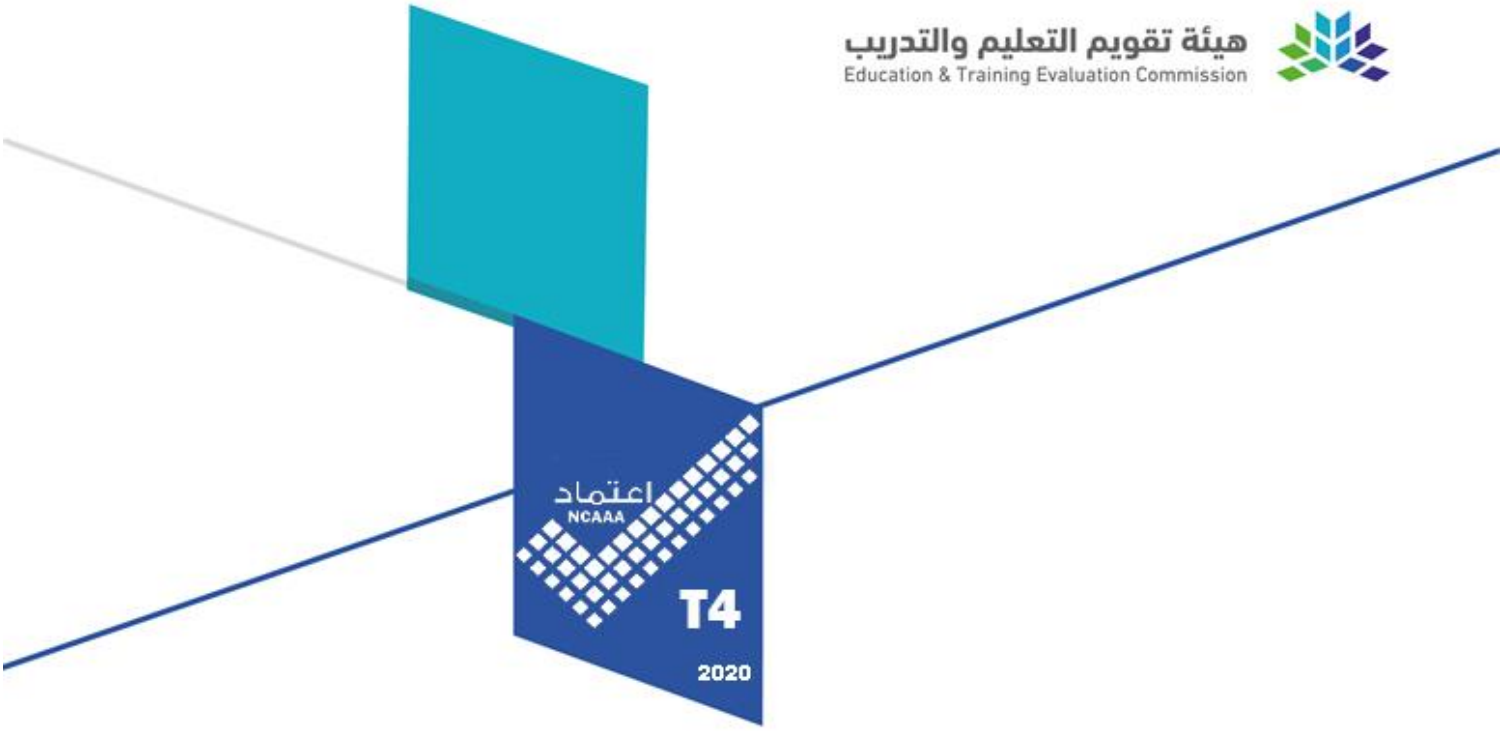
مجالات التقويم	المقيمون	طرق التقييم
تقـــويم فاعليَّـــة اســـتراتيجيات التَّـــدريس المستخدمة	أستاذ زميل يدرِّس نفس المقرَّر	مباشـــر: الـــزِّيارة للفصـــل وتقريـــر فاعليَّـــة استراتيجيَّات التَّدريس المستخدمة.
طرق تقييم الطُّلَّاب	الطُّلَّاب	غـير مباشـر: اسـتبانة تقيـيم المقـرَّر المتاحـة على الموقع الإلكتروني.
مدى تحصيل مخرجات التَّعلم للمقرَّر	قيادة البرنامج	غير مباشر: تقرير المقرَّر.

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:	**Maintenance Engineering**
Course Code:	**IE4305**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eleventh Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Reliability Engineering**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The focus will be on the organization, strategies/policies, requirements forecasting, and operations planning of maintenance; the maintenance typology (proactive/reactive, preventive/systematic, corrective/curative, conditional…); Machines dependability/reliability / availability/maintainability/safety principle measures; maintenance support performances; management steps and requirements of Machinery Operation (functioning, start-up); failure signature, default detection and breakdown prediction; maintenance capacity planning, decision models of components replacement and spare-parts management, maintenance KPI measurement and standards; material control and monitoring, and maintenance audit, quality of Machinery Maintenance and Machinery Operation; Maintenance Information Systems / Computer-Aided Maintenance Management system (CAMM); Total Productive Maintenance (TPM), Intelligent Maintenance Systems (IMS);

2. Course Main Objective

At the end of the course the students will be able to:

- Identify maintenance types and policies
- To accurately describe related industrial maintenance systems.
- To explain how production system is correlated to the industrial maintenance systems.
- To analyze/apply strategic reliability improvement processes, specifically Weibull Analysis, RCM & FMECA, TBM, PdM, RBI, and TPM.
- Properly formulate reliability specifications/ requirements for engineered systems.
- To describe machines monitoring and control systems, technology, and techniques of in relation with reliability and maintenance considerations.
- Describe the management procedures related to maintenance management and machinery start-up, calibration, and follow-up (supervision) for reliable functioning.
- Explain the importance of spare-parts inventory management in maintenance management,
- Properly formulate and use reliability / availability / maintainability models for use in analysis and prediction.

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):

Using an educational Computer-Aided Maintenance Management software (CAMM).

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify the maintenance function and its objectives and the manner how to prepare report about the maintenance function	K2
1.2	Explain the types of maintenance and how to use them when design maintenance systems	K2
1.3	Explain the maintenance resources planning and the various planning techniques for machinery operation (start-up, functioning) and maintenance.	K2
1.4		
2	**Skills:**	
2.1	Estimate systems maintainability for the independent & dependent cases as well as related characteristics and design systems for better reliability and maintainability	S1
2.2	Apply various computational maintenance KPI measures and reliability-related performance evaluation	S2
2.3	Apply different ways for planning/scheduling maintenance activities/daily-works and different methods of maintenance workload analysis	S2
2.4	Implement various maintenance performance techniques (machine monitoring basis, AI for Intelligent Maintenance Systems, TPM principles, maintenance quality audit…)	S3
2.5	Use in team Computerized Maintenance Management Systems software like MAXIMO Software by conducting term project Lab or Term project	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Maintenance Management and Machinery Operation management; Maintenance function and objectives	2
2	Maintenance typology and policies	3
3	Time-Based Maintenance (TBM) and Total Productive Maintenance (TPM)	4
4	Maintenance planning and Maintenance-related spare-parts inventory control	4
5	Inspection and monitoring in maintenance management	3
6	Failure distributions and analysis, default signature and detection, Breakdown prediction; Constant Failure Rate Model, Time-Dependent Failure Models, Reliability models, Hazard rate & wear out models.	3
7	Maintenance resources planning and maintenance jobs scheduling	3
8	Maintenance workload analysis and performance measures	3
9	Computerized maintenance management systems (CMMS, CAMM): example of (MAXIMO)	5
10	Intelligent Maintenance Systems (IMS), Artificial Intelligence for Predictive Maintenance	7
11	Markov processes and other probability-related techniques in maintenance management et reliability assessment	3
12		
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	Identify the maintenance function and its objectives and the manner how to prepare report about the maintenance function	• Lectures • Homework • Assignments	• Exams and quizzes • Given homework assignments
1.2	Explain the types of maintenance and how to use them when design maintenance systems		
1.3	Explain the maintenance resources planning and the various planning techniques for machinery operation (start-up, functioning) and maintenance.		
1.4			
2.0	**Skills**		
2.1	Estimate maintainability for the independent & dependent cases as well as related characteristics and design systems for better reliability and maintainability	• Lectures • Homework • Assignments • Project	• Exams and quizzes • Given homework assignments • Project
2.2	Apply various computational maintenance KPI measures and reliability-related performance evaluation		
2.3	Apply different ways for planning/scheduling maintenance activities/daily-works and different methods of maintenance workload analysis		
2.4	Implement various maintenance performance techniques (machine monitoring basis, AI for Intelligent Maintenance Systems, TPM principles, maintenance quality audit…)		
2.5	Use in team Computerized Maintenance Management Systems software like MAXIMO Software by conducting term project Lab or Term project	• 1 hour per week of lab associated lecture	
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments Tasks	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th 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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	An Introduction to Reliability and Maintainability Engineering, by C. E. Ebeling, McGraw-Hill (1997). Handbook of Maintenance Management and Engineering, Mohamed Ben-Daya ,Salih O. Duffuaa , Springer-Verlag London Limited (2009)
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	MAXIMO Software or Prelude ERP software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources	• Available

Item	Resources
(AV, data show, Smart Board, software, etc.)	
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Automation and Control**
Course Code:	**IE4207**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eleventh Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Dynamics**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

This course is intended to lay a foundation for designing advanced control system. This course will help the students to understand mathematical modeling of physical systems, be able to understand time domain specification and steady state error and get familiar with the concept of Frequency domain analysis tool.

2. Course Main Objective

1. What is the main purpose for this course?

The purpose of this course is to introduce students to the fundamental principles of dynamic systems (mechanical, electronic, thermal, fluid, and hybrid). To describe the real system, we will develop ideal mathematical models based on differential equations. From analytical solutions and computer simulation of these equations, we will be able to understand how the dynamic system will behave when subjected to various inputs. The objective of the course is to develop student's ability to construct and solve mathematical models in order to answer questions concerning engineering systems.

Course Objective

Upon successful completion of this unit, students will be able to:

- Develop mathematical models of dynamic systems in differential equation form.
- Develop mathematical models of dynamic systems in transfer function form.
- The use of solution methods for dynamic systems.
- Analysis of different systems in Time and Frequency domains.
- Study of transient response and block diagram model.
- Introduction to Feedback control systems.

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

- Use of data show
- Update the course content periodically.
- Using latest references.
- Using the electrical analogies.
- Using web references.
- Using MatLab Software

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	To gain capability to communicate effectively.	K1
1.2	To apply the fundamental principles of science and engineering.	K2
1.3		
1...		
2	**Skills:**	
2.1	The ability to interpret the behavior of physical systems as well as the physics of individual components and the interactions between them	S1
2.2	The ability to analyze and solve dynamics problems.	S2
2.3	The ability to store, manipulate, and retrieve information	S3
2.4	The ability to apply the methods of block diagram, root locus, Bode plot, and feedback control theory to analyze and design automatic control systems.	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Control Systems- Closed-Loop Control versus Open-Loop Control, Modeling of Dynamic Systems: Transfer Function and Impulse Response Function	4
2	Modeling of Mechanical and Electrical, Fluid and Thermal Systems	4
3	Signal Flow Graphs	3
4	Transient and Steady-State Response Analyses: First, Second and Higher-Order Systems	4
5	Routh's Stability Criterion	3
6	Root-Locus Analysis: Root-Locus Plots- Positive-Feedback Systems- Conditionally Stable Systems- Control Systems Design by the Root-Locus Method	4
7	Frequency-Response Analysis: Bode Diagrams- Polar Plots Nyquist Stability Criterion- Stability Analysis- Closed-Loop Frequency Response	4
8	Control Systems Design by Frequency Response: Lead Compensation- Lag Compensation- Lag-Lead Compensation	4
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	To apply the fundamental principles of science and engineering.	• Lectures • Homework • assignments, Exams and quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
1.2	To gain capability to communicate effectively.		
…			
2.0	**Skills**		
2.1	The ability to interpret the behavior of physical systems as well as the physics of individual components and the interactions between them	• Making connections between different concepts across the domains. • Assigning research questions that can be answered through collecting and analyzing data • Class discussions. Using the Internet to create learning activities.	• Tested by giving them two exams and three quizzes • Given homework assignments
2.2	The ability to analyze and solve dynamics problems.		
2.3	The ability to store, manipulate, and retrieve information		
2.4	The ability to apply the methods of block diagram, root locus, Bode plot, and feedback control theory to analyze and design automatic control systems.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quiz	Continuous Assessment	15%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Control Systems Engineering, 6th Ed., Norman S. Nise, Wiley, 2011.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	• System Dynamics, by K. Ogata, 2004, 4th Ed., Prentice Hall. • Modeling and Analysis of Dynamic Systems, 3rd Edition, Charles M. Close, Dean K. Frederick, Jonathan C. Newell, John Wiley & Sons, 2001. • MATLAB

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

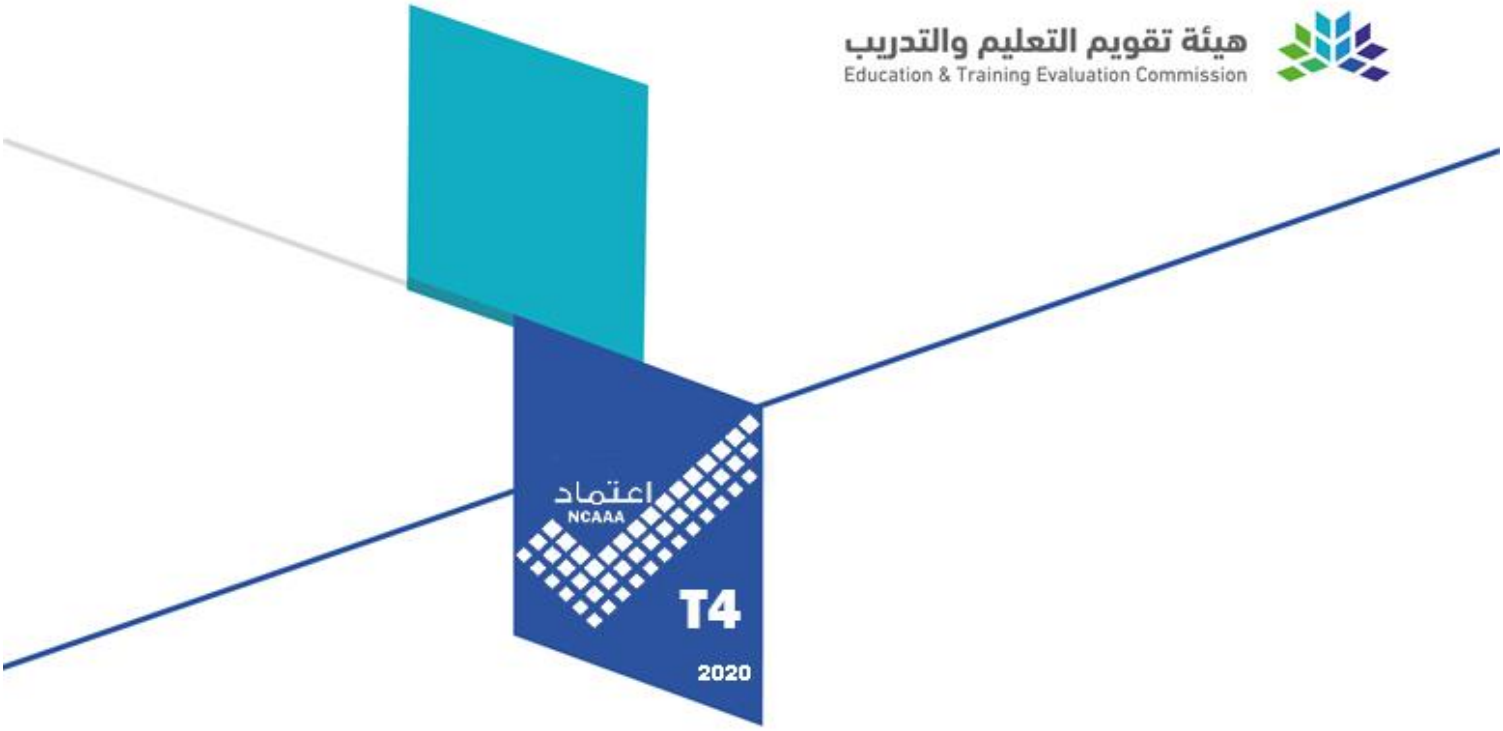
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
Review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Supply Chain Engineering and Logistics**
Course Code:	**IE4703**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eleventh Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Production Planning and Inventory Control**
5. Co-requisites for this course (if any)**:**

6. Mode of Instruction (mark all that apply)

No	Mode of Instruction	Contact Hours	Percentage
1	**Traditional classroom**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The focus will be on the design, planning, organization and control of the associated activities to logistics and SCM. The following topics will be covered: logistics, supply chain structure and relationships, objectives and evaluation drivers and metrics, sourcing and procurement, pricing, sales and customer service, network design and facility location in a supply chain, transportation operations and routing problems for pickup and delivery, aggregate planning for distribution (DRP); configuring inventory in supply-chain facilities; information technologies in supply chain management.

2. Course Main Objective

What is the main purpose for this course?

At the end of the course the students will be able to:

- Properly describe logistics and supply chain activities and principles.
- Identify distribution logistics concepts, including logistics network configuration; shipping mechanisms; milk-run/hub system, route selection, cross-docking and transshipment, supply and trucking operations, and shipment tracking, supply-chain relationships, logistics drivers of performance, customer service.
- Properly apply design, scheduling and routing models and algorithms for transportation and supply chain planning.
- Properly apply aggregate Distribution Resource Planning (DRP) with aggregation and disaggregation of product families and including JIT, Push/pull systems.
- Apply models to deterministic and probabilistic inventory and warehousing systems, lot-sizing and capacity planning of logistics flows.
- Explain lean supply systems concepts, including lean production concept, lean transport mechanism.
- Solve practical warehouse design and configuration problems.

Understand basics of supply chain software and organizations, timing, policies, and government regulations.

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).

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Explain logistics and supply chain management concepts, theories, strategies and the importance of the impact of logistics relationships, globalization and diversity in modern organizations.	K2
1.2	Describe the metrics and the legal and ethical aspects of logistics considering customer service, business organizations, performance requirements and logistics decisions.	K2
1.3	Identify tradeoffs between the three key areas of transportation, inventory, and warehouse/DC management and recommend actionable plans and strategies.	K2
1.4	Describe some advanced logistics concepts, such as: DRP and activity integration, Lean SCM, Green logistics, international logistics, consolidation and collaborative logistics, smart logistics, e-logistics, material handling, warehousing, JIT, Kanban in internal logistics, push/pull flow management.	K2
2	**Skills:**	
2.1	Apply mathematical and algorithmic methods to optimize the logistics processes, systems and networks, including facility location, optimal paths, allocation and assignment in network design, flow problems, transshipment, TSP, VRP, etc.	S2
2.2	Evaluate both domestic and international transportation problems in order to effectively develop and present actionable solutions.	S4
2.3		
2...		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Understanding the Logistics Function and the Supply-Chain: flows and coordination activities, SC stakeholders, shipping mechanism and transportation, Cross-docking, trucking & tracking, routing, facilities, 1PL-4PL, B2B/B2C.	2
2	Supply Chain relationships: sourcing, procurement, supply contracts, outsourcing.	3
3	Customer service and Demand/Market Characterization	6
4	Supply Chain Strategies and Drivers of performance	3
5	Strategic issues of Distribution Network Design	6
6	Facility Location Problems for Logistics Network Design	3
7	Tactical issues of flows planning and routing in supply networks	6
8	Operational issues of orders fulfilment scheduling and vehicle routing	3
9	Warehousing and storage design and activities: configuration, layout and addressing, inventory plans, material handling and cost	3
10	Aggregate Production and Distribution Planning: MRP and DRP, Lot Sizing, Capacity Planning	2
11	Advanced SC concepts: Lean SCM, JIT, Green logistics, SC Info/RFID Technologies e-Logistics, globalization and international trade and transport, SC risk assessment and costing, SCOR, collection logistics, messaging logistics, pricing, consolidation and resource pooling, bullwhip effect.	3
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	Explain logistics and supply chain management concepts, theories, strategies and the importance of the impact of logistics relationships, globalization and diversity in modern organizations.	• Lectures • Homework • Assignments	• Exams and quizzes • Given homework assignments
1.2	Describe the metrics and the legal and ethical aspects of logistics considering customer service, business organizations, performance requirements and logistics decisions.		
1.3	Identify tradeoffs between the three key areas of transportation, inventory, and warehouse/DC management and recommend actionable plans and strategies.		
1.4	Describe some advanced logistics concepts, such as: DRP and activity integration, Lean SCM, Green logistics, international logistics, consolidation and collaborative logistics, smart logistics, e-logistics, material handling, warehousing, JIT, Kanban in internal logistics, push/pull flow management.		
2.0	**Skills**		
2.1	Apply mathematical and algorithmic methods to optimize the logistics processes, systems and networks, including facility location, optimal paths, allocation and assignment in network design, flow problems, transshipment, TSP, VRP, etc.	• Lectures • Homework • Assignments • Project	• Exams and quizzes • Given homework assignments • Project
2.2	Evaluate both domestic and international transportation problems in order to effectively develop and present actionable solutions.		
…			
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizes	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Supply Chain Management, By S. Chopra and P. Meindl, Prentice-Hall, Inc.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	Prelude ERP, CRM software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available

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

G. Course Quality Evaluation

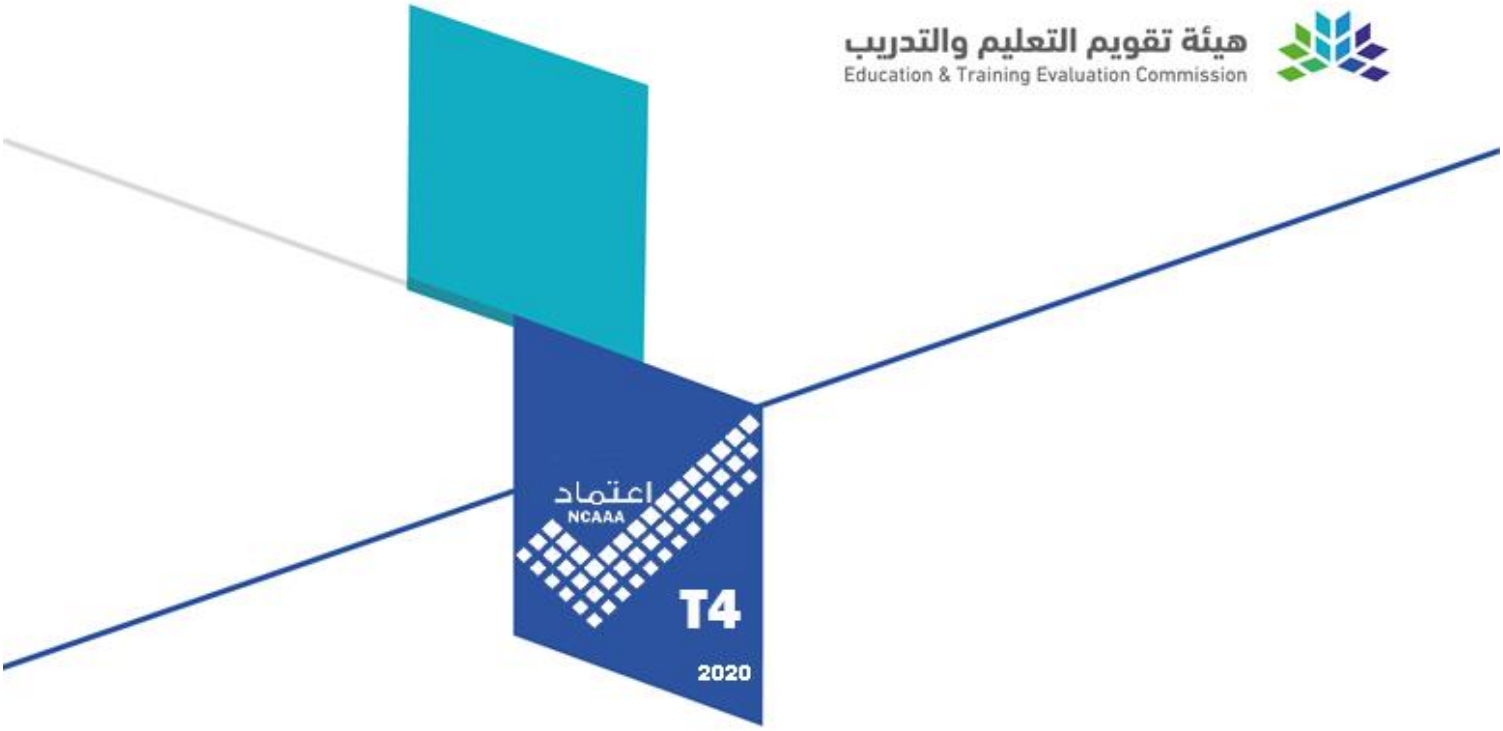
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Industrial Safety Engineering**
Course Code:	**IE4603**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Eleventh Semester / Fourth Year
4. Pre-requisites for this course (if any)**: Human Factors Engineering**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Study of hazards in the workplace, analytical tools of hazards and accidents, probabilistic concepts, safety and health syloms, national regulations and requirements, hazard control, safety and health management syloms

2. Course Main Objective

1. What is the main purpose for this course?
   - Identify unsafe conditions in a typical construction and/or industrial workplace.
   - Analyze control measures for potentially hazardous situations in the workplace
   - Select engineering controls used to eliminate or reduce unsafe conditions in a given workplace.
   - Analyze the safety requirements for workers with disabilities.
   - Use risk assessment to evaluation the hazardous situation.
   - Demonstrate engineering principles in designing an industrial facility.
   - Comprehend the importance of record of accident, inspection planning, machine Guard, fire protections, and PPT.
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):

Changes in content as a result of new research in the field

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify unsafe conditions in a typical construction and/or industrial workplace.	K1
1.2	Demonstrate engineering principles in designing an industrial facility.	K2
1.3	Comprehend the importance of record of accident, inspection planning, machine Guard, fire protections, and PPT.	K2
1...		
2	**Skills:**	
2.1	Analyze control measures for potentially hazardous situations in the workplace	S1
2.2	Design safety engineering system for a manufacturing facility	S2
2.3	Analyze the safety requirements for workers with disabilities.	S3
2.4	Use risk assessment to evaluation the hazardous situation.	S4
2.5	Use the techniques and tools of safety engineering	S4
2.6	Detect hazardous situations in real system.	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	**Describe the safety engineering issues:** • Importance of safety and health engineering. • Safety and health professions. • The reality of safety in number.	4
2	**Fundamental concepts and terms:** • Safety terms • Type of loss • Accident cause • Accident factor How accidents are prevented	6
3	**Risk assessment & analysis for safety management** • Methods of risk assessment and analysis. • Job safety analysis (JSA). Risk assessment matrix.	8
4	**Accident investigations and record** • Accident investigations • Steps for analyzing accident causes • Case studies • Accident reports and records • Sample of report form	7
5	**Plant safety inspection checklist** • Plant inspection • Example of inspection checklist	6
6	**Mechanical hazards** • Point of operation • Power transmission • In-running nip points • Rotating or reciprocating machine parts • Flying chips, sparks, or parts • Electrical, noise and burn hazards	9
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	Identify unsafe conditions in a typical construction and/or industrial workplace.	• Lectures • Exam • Quiz • Homework	• Tested by giving them exams and quizzes • Given homework
1.2	Demonstrate engineering principles in designing an industrial facility.		
1.3	Comprehend the importance of record of accident, inspection planning, machine Guard, fire protections, and PPT.		
2.0	**Skills**		
2.1	Analyze control measures for potentially hazardous situations in the workplace	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • assignments, • Exams and quizzes. • Report
2.2	Design safety engineering system for a manufacturing facility		
2.3	Analyze the safety requirements for workers with disabilities.		
2.4	Use risk assessment to evaluation the hazardous situation.		
2.5	Use the techniques and tools of safety engineering.		
2.6	Detect the hazarder situations in real system.	Report for actual problem	Presenting and discuss the in class
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5^{th}-7^{th} Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizes	Continuous Assessment	10%
4	Project	During 11^{th} Week	15%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
5	Final Exam	During 12th Week	40%
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Roger L. Brauer, (2006). Safety and Health for Engineers. Second Edition. Hoboken, New Jersey: John Wiley & Sons Inc.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	Asfahl, C.R. and Rieske D.W., Industrial Safety and Health Management, 6/e, Pearson, Boston, 2010.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Workshop
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show, Smart Board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

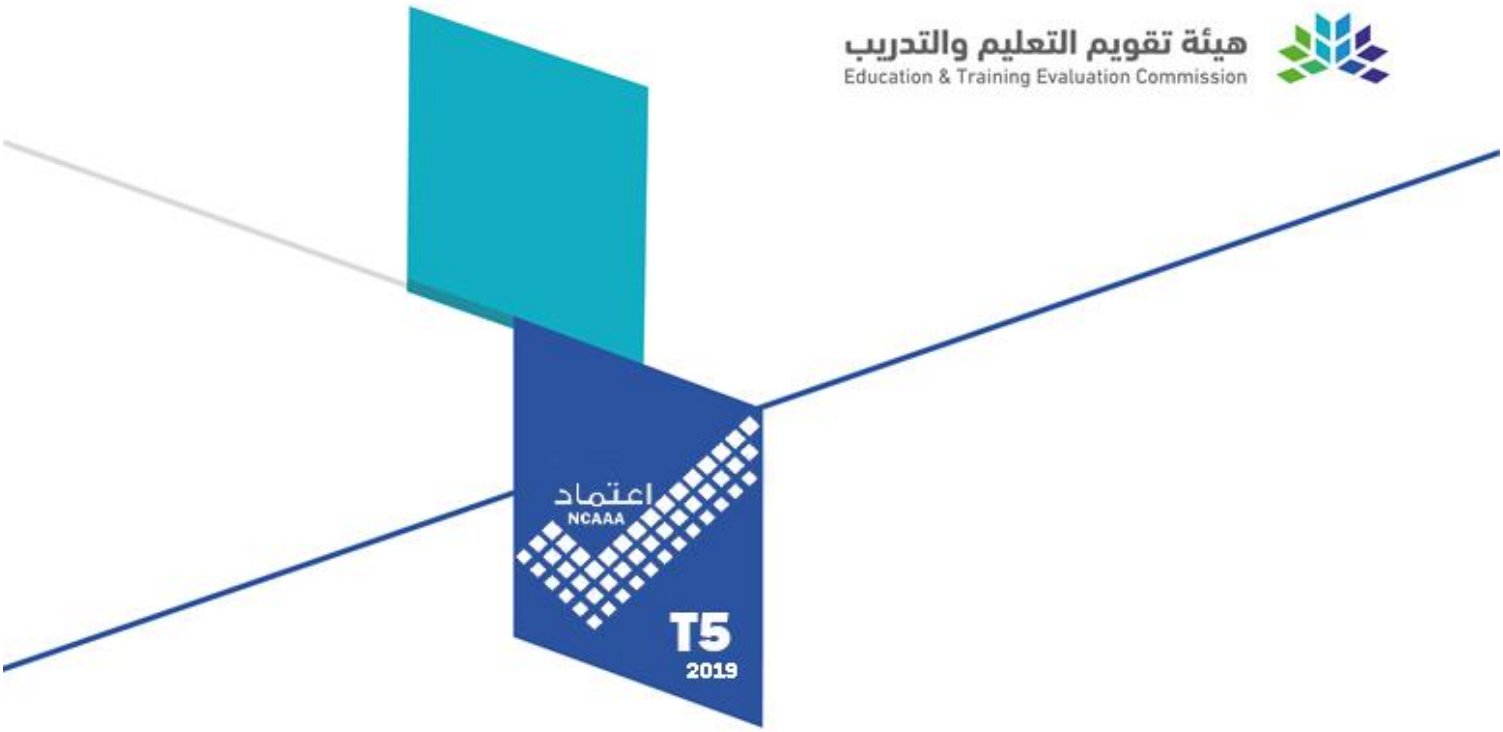
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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



Field Experience Specifications

Course Title:	**COOP Training**
Course Code:	**IE4900**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering & Islamic Architecture**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Field Experience Identification

1. Credit hours: 8 Hrs

2. Level/year at which this course is offered: 12th level (3rd semester - end of 4th year with Summer)

3. Dates and times allocation of field experience activities.

- Number of weeks: (24) weeks
- Number of days: (120) days
- Number of hours: (7) hours/day

4. Pre-requisites to join field experience (if any)**:**

The completion of a minimum of 155 Credit Hours in the Bachelor Degree and Department approval.

B. Learning Outcomes, and Training and Assessment Methods

1. Field Experience Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	**Ability to use the techniques, skills and modern engineering tools necessary for engineering practice**	K1
1.2		
2	**Skills:**	
2.1	**Able to use theoretical knowledge from courses to solve engineering problems and tasks around the institute.**	S1,S2,S4
2.2	**Depending on the institute, trainee can be given a task in hand to accomplish personally or through a team.**	S3,S5
2.3		
3	**Values:**	
3.1	**Ability to establish successful relationships with team members, workers and engineers.**	V1,V2
3.2	**Ability to engage in long-life learning**	V3
3.3	**Ability to understand professional and ethical responsibilities**	V1
3.4	**Ability to function as an effective team member**	V2
3.5	**Ability to communicate effectively**	V2

2. Alignment of Learning Outcomes with Training Activities and Assessment Methods

Code	Learning Outcomes	Training Methods/Activities	Assessment Methods
1.0	**Knowledge and Understanding**		

Code	Learning Outcomes	Training Methods/Activities	Assessment Methods
1.1	Ability to use the techniques, skills and modern engineering tools necessary for engineering practice	• Hands on practical experience integration with a company or institute working along with an engineer in the field of study.	• Direct supervision from faculty members • Technical report • Institution evaluation
2.0	**Skills**		
2.1	Able to use theoretical knowledge from courses to solve engineering problems and tasks around the institute.	• Many engineering problems are faced by companies encouraging the trainees to get involved and seek a solution.	• Technical report and discussions with supervisors • Institution evaluation
2.2	Depending on the institute, trainee can be given a task in hand to accomplish personally or through a team.	• Institutions must plan for the training and choose some tasks that can test the ability of trainee to handle and achieve.	• Psychomotor skills are assessed through the outcome of each task which will be graded in the institutional evaluation.
3.0	**Values**		
3.1	Ability to establish successful relationships with team members, workers and engineers.	• Trainee gets involved with tasks to accomplish with team members (not all institutes).	• Evaluation of submitted report and discussion. • Institution evaluation with comments on the trainee's skills.
3.2	Ability to engage in long-life learning	• Hands on practical experience integration with a company or institute working along with an engineer in the field of study.	• Direct supervision from faculty members • Technical report • Institution evaluation
3.3	Ability to understand professional and ethical responsibilities		
3.4	Ability to function as an effective team member		
3.5	Ability to communicate effectively		

3. Field Experience Learning Outcomes Assessment

a. Students Assessment Timetable

#	Assessment task*	Assessment timing (Week)	Percentage of Total Assessment Score
1	Training management office	Throughout training	10%
2	Teaching staff training assessment	Throughout training	10%
3	Field supervisor training assessment	Throughout training	30%
4	Teaching staff oral/report assessment	End of training	50%

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

b. Assessment Responsibilities

م	Category	Assessment Responsibility
1	Teaching Staff	Student activities, learning experiences, attendance, guidance, support.
2	Field Supervisor	Student activities, learning resources, field site preparations, guidance, site safety, learning activities, field experience.
3	Others (specify) Summer Training Management Office	Registration, data collection, preparation, communication, submission center, field allocation

C. Field Experience Administration

1. Field Experience Locations

a. Field Experience Locations Requirements

Suggested Field Experience Locations	General Requirements*	Special Requirements**
Saudi Binladin Group Operation and Maintenance - Airport		
Saudi Arabian Airlines		
Security forces Hospital		
Fekeeh farms company for poultry		
National Petrochemical Industries Company		
Saline water desalination plants in Jeddah COOP training		
King Faisal Hospital in the Holy Capital		
Emirate of Makkah Region		
Smart Methods Trading Est		
General Presidency of the Grand Mosque and the Prophet's Mosque Affairs		
The Emirate of Makkah Al Mukarramah Region - Jeddah Governorate		
Sherwin Williams Paints - Supply Chain		
Saudi Services Co. Ltd.		
Attia Steel Company Ltd		
Municipality of Beni Hassan Governorate		
Saudi Basic Industries Corporation (SABIC)		
bin Ladin Saudi group Operating and Maintenance		
Ibrahim Juffali and Brothers Company for Air Conditioning, Mechanics and Electricity (Jamed)		
Saqr Aljazeerah Factory		
Aamalukum Business for Business Services Corporation - Jubail Technical Institute		
Diligent Resolve Co., Ltd.		
The General Directorate of Civil Defense in the Holy Capital		
The Holy Capital Secretariat		
The Saline Water Conversion Corporation (Shuaibah Desalination Plant)		
The Municipality of Jumum Governorate		
Yanbu cement		

Saudi Cable Company		
TLD Arabia Equipment Services Company		
King Faisal Naval Base		
Maternity and Children Hospital in the Holy Capital		
Public Security Project Management and Maintenance in the Holy Capital		
Premium Paints Company - Sherwin Paints - Williams		
Saudi Electricity Company, Makkah Al-Mukarramah	High GPA	
Al Noor Specialized Hospital		
Saudi Arabian Plastic Products Factory - Manahil Al-Qura Co. Ltd.		
Precast Concrete Manufacturing Company Limited (Primco)		
Saudi Engineering Union Company - Khatib & Alami		
Umm Al-Qura University General Projects Administration		
Mitch Sweets Factory		
Blacksmithing Company Ltd.		
Makkah Region Development Authority		
Hira General Hospital		
Saudi Aerospace Engineering and Industry		
Bin Debes Trading and Contracting Company		
Saudi Electricity Company in the Eastern Province	High GPA	
Quality complex specialized in dentistry		
International Marble and Granite Company Ltd.		
Saudi Packaging Company (SAPAPCO)		
Directorate of Health Affairs in Taif Governorate - Department of Training and Scholarships		
Makkah Chamber		
General Administration of Education in Makkah Al Mukarramah		
Yahya Omar Abdel Moati & Partner Co. Ltd.		
Mitch Water Bottling Factory		
Jeddah Islamic Port		
Riyadh Ministry of Transport		
Royal Commission Hospital in Jubail		
Al-Qassim Region Municipality		
Mohammed Omar Mohammed Bagbas Foundation		
Al Ghadeer International Marketing Company		

*Ex: provides information technology ،equipment ،laboratories ،halls ،housing ،learning sources ،clinics etc.

**Ex: Criteria of the training institution or related to the specialization, such as: safety standards, dealing with patients in medical specialties, etc.

b. Decision-making procedures for identifying appropriate locations for field experience

- Submissions for new institutes are sent to the concerned faculty for approval.

2. Supervisory Staff

a. Selection of Supervisory Staff

Selection Items	Field Supervisor	Teaching Staff
Qualifications	Qualified Engineer	Qualified Engineer
Selection Criteria	Same discipline (when possible) Institution's decision	Same discipline (when possible) Faculty's decision Able to follow College Training Management's Office instructions for supervisory

b. Qualification and Training of Supervisory Staff

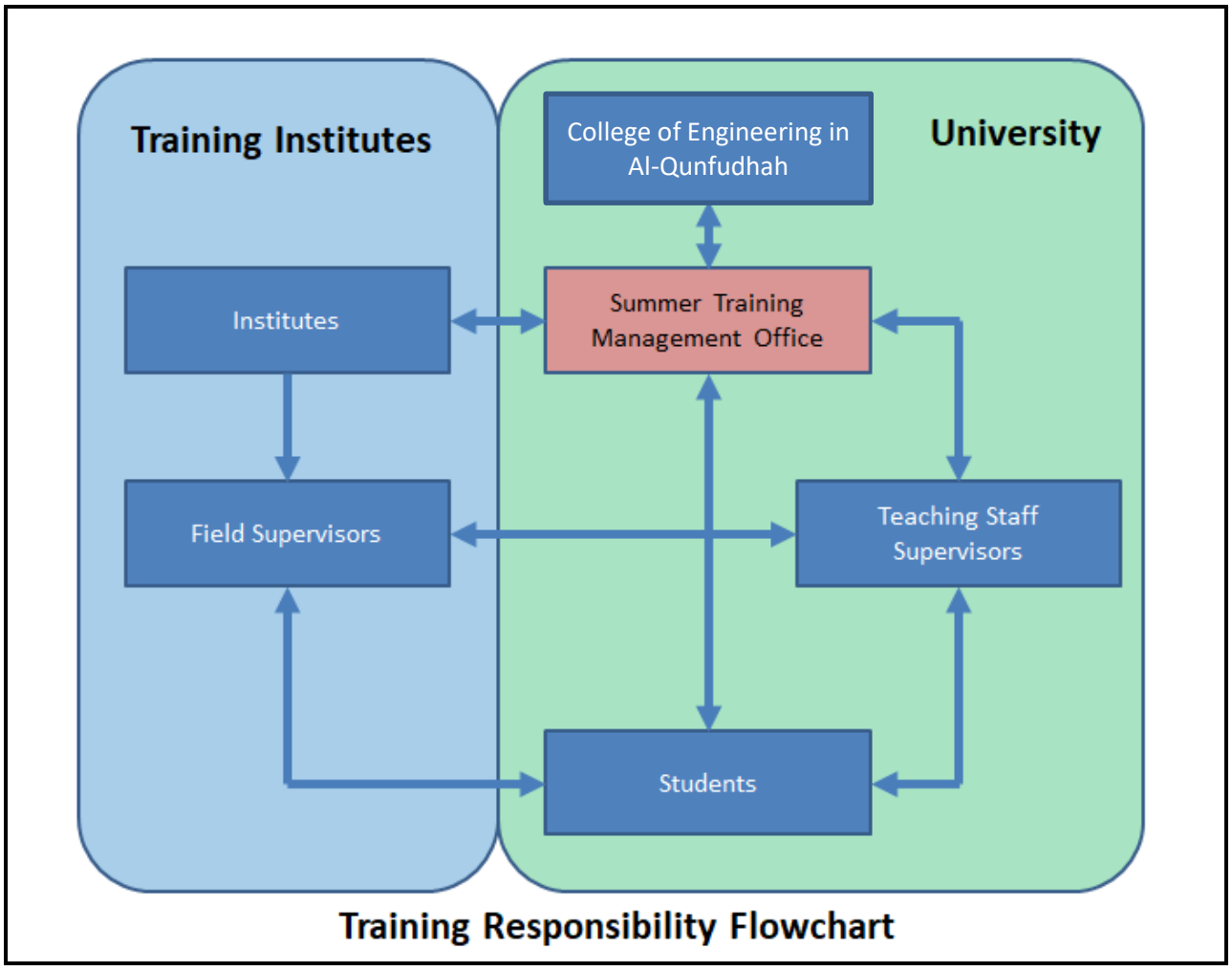
(Including the procedures and activities used to qualify and train the supervisory staff on supervising operations, implementing training activities, the follow-up and evaluation of students, etc.)

Instructions and evaluation forms are available for supervisory staff to follow-up, evaluate, guide and support quality training for each student.

3. Responsibilities

a. Field Experience Flowchart for Responsibility

including units, departments, and committees responsible for field experience, as evidenced by the relations between them.



Training Responsibility Flowchart

b. Distribution of Responsibilities for Field Experience Activities

Activity	Department or College	Teaching Staff	Student	Training Organization	Field Supervisor
Selection of a field experience site	√		√		
Selection of supervisory staff	√			√	
Provision of the required equipment				√	√
Provision of learning resources	√	√			√
Ensuring the safety of the site				√	√
Commuting to and from the field experience site			√	√	
Provision of support and guidance	√	√			√
Implementation of training activities (duties, reports, projects, ...)		√			√
Follow up on student training activities		√			√
Adjusting attendance and leave					√
Assessment of learning outcomes	√				
Evaluating the quality of field experience	√	√	√		
Others (specify)					

4. Field Experience Implementation

a. Supervision and Follow-up Mechanism

- Students contact details are sent to each supervisor.
- A planned training program is to be designed in the first week of training by the student and field supervisor to be collected online and sent to the teaching staff supervisor.
- Reports are to be collected online and sent weekly by the student to his teaching staff supervisor.
- The teaching staff supervisor can call and/or visit the institute to upraise any issues and

for guidance/support.

b. Student Support and Guidance Activities

- Teaching staff supervisor studies the training program of the institution and gets in contact with the field supervisor and student to suggest any changes from his experience. **- Weekly reports are studied and feedback is given to students when needed.** **- The student usually follows the field supervisor in his duties along with the set program assigned for him.**

5. Safety and Risk Management

Potential Risks	Safety Actions	Risk Management Procedures
Turning Machines	Supervision when working near machines Safety sessions before visits to the area	No loose clothing allowed Turning objects should be caged
Falling objects	Helmet required at working area	Using nets or covers between levels when working with loose items
Electrical hazards	Safety sessions in first weeks to realize hazardous situations	Applying standards for electrical wiring

G. Training Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Student's achievements, weaknesses, strengths, recommendations (Form)	Field supervisors	Indirect
Student's commitment to training, training quality (Form)	Teaching staff supervisors	Indirect
Training quality, training effectiveness	Students	Indirect
Overall learning, achievements, institute pros and cons. (Final report and oral interview)	Teaching staff supervisors	Direct

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

E. Specification Approval Data

Council / Committee	
Reference No.	
Date	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA
T4 2020

توصيف المقرر الدراسي

اسم المقرر:	القرآن كريم (4)
رمز المقرر:	**(QR4104)**
البرنامج:	**البكالوريوس**
القسم العلمي:	**القراءات**
الكلية:	**الدعوة وأصول الدين**
المؤسسة:	**جامعة أم القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات
المعتمدة: ساعتان.

2. نوع المقرر

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

ب. إجباري ☑ اختياري ☐

3. السنة / المستوى الذي يقدم فيه المقرر: السنة الرابعة.

4. المتطلبات السابقة لهذا المقرر:
القرآن الكريم (3).

5. المتطلبات المتزامنة مع هذا المقرر:
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		
4	التعليم عن بعد	20 ساعة	%100
5	أخرى		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	20 ساعة
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	20 ساعة

ب- هدف المقرر ومخرجاته التعليمية:

1. **الوصف العام للمقرر:** يشمل المقرر على أربعة محاور:

1. حفظ نصف الجزء التاسع والعشرين من القرآن الكريم (جزء تبارك): من سورة الملك إلى سورة نوح حفظًا متقنًا.
2. تلاوة ثلاثة أجزاء: من سورة سبأ إلى سورة فصلت.
3. دراسة أحكام التَّجويد.
4. شرح غريب كلمات القرآن: من سورة الملك إلى سورة نوح.

2. الهدف الرئيس للمقرر: – تعليم الطُّلَّاب النُّطق السَّليم لكتاب الله –عزَّ وجلَّ–، وفق طرق الأداء المعتبرة.

– حفظ حزب واحد من القرآن الكريم.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.	
1.3	أن يتعرف الطالب على أحكام التجويد.	
1.4	أن يعَرِّف الطَّالب غريب القرآن.	
2	**المهارات**	
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.	
2.3	أن يوضح معاني غريب القرآن.	
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.	
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.	
3	**القيم**	
3.1	أن يعمل ضمن فريق المقرر بكفاءة، ومسؤولية.	
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.	
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	(مقدِّمة تعريفيَّة عن فضل تعلم القرآن الكريم، وأقسام اللحن الجلي والخفي)، وتصحيح تلاوة سورة الملك من 1 إلى 15 مع التَّكليف بحفظها، مع شرح غريب القرآن.	2
2	تسميع سورة الملك من 1 إلى 15، تصحيح تلاوة سورة الملك من 16 إلى 30 مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة سبأ.	2
3	تسميع سورة الملك من 16 إلى 30، تصحيح تلاوة سورة القلم من 1 إلى 31 مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة فاطر من آية (1) إلى سورة يس آية (27)، شرح درس التجويد (مخارج الحروف الجزء الأول)	2
4	تسميع سورة القلم من 1 إلى 31، تصحيح تلاوة سورة القلم من 32 إلى 52 التَّكليف بحفظها، مع شرح غريب القرآن ، تلاوة سورة يس من آية (28) إلى سورة الصافات آية (76)، شرح درس التجويد (مخارج الحروف الجزء الثاني)	2
5	تسميع سورة القلم من 32 إلى 52، تصحيح تلاوة سورة الحاقة من 1 إلى 24 مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة الصافات من آية (77) إلى سورة ص آية (42)، شرح درس التجويد (صفات الحروف)	2

6	تسميع سورة الحاقة من 1 إلى 24، تصحيح تلاوة سورة الحاقة من 25 إلى 52 مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة ص من آية (43) إلى سورة الزمر آية (40).	2
7	تسميع سورة الحاقة من 25 إلى 52، تصحيح تلاوة سورة المعارج مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة الزمر من آية (41) إلى سورة غافر آية (25)، شرح درس التجويد (إدغام المتماثلين والمتجانسين والمتقاربين).	2
8	تسميع سورة المعارج، تصحيح تلاوة سورة نوح مع التَّكليف بحفظها، مع شرح غريب القرآن، تلاوة سورة غافر من آية (26) لآخر السورة، شرح درس التجويد (ترقيق الراء وتفخيمها).	2
9	تسميع سورة نوح من 1 إلى 20، تلاوة سورة فصلت.	2
10	تسميع سورة نوح من 21 إلى نهاية السورة.	2
المجموع		20

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	أن يحفظ الطَّالب المقدار المقرَّر أسبوعيًّا.	المحاضرة التلقي والسماع العروض التقديمية	التقييم المستمر الاختبارات الشفوية
1.2	أن يتلو الطَّالب القران الكريم بالكيفية الصحيحة.		
1.3	أن يتعرف الطالب على أحكام التجويد.		
1.4	أن يعَرِّف الطَّالب غريب القرآن.		
2.0	**المهارات**		
2.1	أن يصحح الطالب الأخطاء التي تقع في التلاوة أو الحفظ منه أو من زملائه.	المحاضرة الحوار والمناقشة التلقِّي والمحاكاة العرض والاستماع التَّعلم الذاتي العروض التقديمية أسلوب حل المشكلات	الاختبارات الشفوية الاختبارات التحريرية
2.2	أن يطبِّق الطَّالب جميع أحكام التَّجويد تطبيقاً عمليًّا.		
2.3	أن يوضح معاني غريب القرآن.		
2.4	أن يتواصل الطالب مع الآخرين بشكل فعال؛ لإظهار ونقل معارفه ومهاراته.		
2.5	أن يقترح الطالب الأساليب المثلى له ولزملائه لتعلم القرآن الكريم؛ لحل مشكلات التعلم والقراءة؛ مستخدماً الأدوات التقنية والحاسوبية.		
3.0	**القيم**		
3.1	أن يعمل ضمن فريق المقرر بكفاءة ومسؤولية.	التَّعلم الذاتي التَّعليم التعاوني حلقات النقاش ملف الإنجاز	بطاقة الملاحظة
3.2	أن يلتزم بآداب وأخلاق قارئ القرآن.		
3.3	أن يقوِّم ذاتياً مستوى أدائه؛ ملتزماً بتحمل مسؤولية تعلمه.		

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	المشاركة وحفظ الآيات وتلاوتها	مستمر	%20
2	الاختبار النصفي	السادس	%20
3	الاختبار النهائي	العاشر	%60

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- ساعات الإرشاد الأكاديمي (السَّاعات المكتبية للأستاذ).
- مساعدة الطلبة في توفير المصادر غير المتوفرة في مكتبة الكلِّيَّة.
- مساعدة الطلبة ذوي الاحتياجات الخاصة (ذوي البصيرة) في توفير المصادر ببرايل.
- إحالة الطلبة الوافدات والمتعثرات والموهوبات على لجنة الإرشاد الأكاديمي بالقسم والجهات المعنيَّة بشؤون الطَّلبة.
- تشكيل لجنة تطوير المقرَّرات بالبرنامج، تعنى بمراجعة المفردات وطرق تدريسها وتقييمها، وتقييم المخرجات من خلال المتابعة المستمرة للتَّغذية الرَّاجعة من قبل الطَّلبة وتقارير المدرِّسين، ثم تقدِّم توصياتها لمجلس القسم لتأخذ مجراها الأكاديمي.
- إعداد الأسئلة التَّقويميَّة نهاية الدَّرس والأنشطة المنزليَّة.
- توجيه الطُّلاب لسماع تلاوات المقرئين المجوِّدين من خلال الوسائل المتاحة.
- المقارنة المرجعيَّة بالمقرَّرات المشابهة له في الجهات الأكاديميَّة الأخرى.

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	-القرآن الكريم. - الميسر في غريب القرآن الكريم المطبوع بمجمع الملك فهد لطباعة المصحف الشريف. - التجويد الميسر المطبوع بمجمع الملك فهد لطباعة المصحف الشريف.
المراجع المساندة	- البرهان في تجويد القرآن/ محمد الصادق قمحاوي. - هداية القارئ إلى تجويد كلام البارئ/ عبد الفتاح السيد عجمي المرصفي. - مذكرة في علم التجويد/ محمد نبهان بن حسين مصري.
المصادر الإلكترونية	- موقع مكتبة جامعة أم القرى. - المكتبة الوقفية. - المكتبة الشاملة. - ملتقى أهل التفسير. - منتديات قراء القرآن.
أخرى	-

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	-قاعات دراسية بها عدد من الكراسي والطاولات للاختبارات النصفية والنهائية.

العناصر	متطلبات المقرر
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	– الحاسب الآلي. – التطبيقات الالكترونية.
تجهيزات أخرى (تبعاً لطبيعة التخصص)	-

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
تقويم فاعليَّة استراتيجيات التَّدريس المستخدمة	أستاذ زميل يدرِّس نفس المقرَّر.	مباشر: الزِّيارة للفصل وتقرير فاعليَّة استراتيجيَّات التَّدريس المستخدمة.
طرق تقييم الطُّلَّاب	الطُّلَّاب	غير مباشر: استبانة تقييم المقرَّر المتاحة على الموقع الإلكتروني.
مدى تحصيل مخرجات التَّعلم للمقرَّر	قيادة البرنامج	غير مباشر: تقرير المقرَّر.

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

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Capstone Project I**
Course Code:	**IE4901**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 2
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Thirteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: 190 credit hours**
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**	20	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	20

B. Course Objectives and Learning Outcomes

1. Course Description

Each group of students is required to prepare a project proposal, review relevant literature and develop a work plan. Project team is required to submit and present technical progress report.

2. Course Main Objective

By the completion of the course, students should be able to:

1. Understand the need to construct a model of real-life work.
2. Define and formulate engineering problems.
2. Learn the concepts of planning, careful thought, and critical analysis.
3. Operate effectively within a team.
4. Provide a project work plan to ensure project completion on time
5. Conduct literature survey on a specific topic.
6. Get training on reading/ writing/ research skills.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the need to construct a model of real-life work.	K1
1.2	Define and formulate engineering problems.	K2
1.3		
1...		
2	**Skills :**	
2.1	Learn the concepts of planning, careful thought, and critical analysis.	S2
2.2	Gather and extract relevant information from reliable references.	S4
2.3	Ability to communicate effectively with arrange of audience	S5
2.4		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Research activities: research strategies, citations, notations, and bibliography	10
2	Work activities: all work assigned throughout the course.	10
3		
4		
5		
...		
Total		20

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 need to construct a model of real-life work	• Weekly progress meetings	• Mid-term progress report • Final oral presentation
1.2	Define and formulate engineering problems.		
1.3	Review the available literature		
2.0	**Skills**		
2.1	Learn the concepts of planning, careful thought, and critical analysis		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
2.2	Gather and extract relevant information from reliable references	• Weekly progress meetings	• Mid-term progress report • Final oral presentation
2.3	Develop a project work plan and functioning on a team		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	• Weekly progress meetings	• Mid-term progress report Final oral presentation
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	• Weekly progress meetings	• Mid-term progress report Final oral presentation
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Continuous assessment and project presentation and defense	10	100%
2			
3			
4			
5			
6			
7			
8			

***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 2 hours per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	NA
Essential References Materials	NA
Electronic Materials	Lecture material in PPT

Other Learning Materials	NA

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show projector • Computer compatible with projector • Microsoft office (word, Excel and PowerPoint).
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
Review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Engineering Ethics**
Course Code:	**IE4704**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 2
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Thirteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Engineering Reports**
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**	20	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	20

B. Course Objectives and Learning Outcomes

1. Course Description

Introduction, laws and regulations governing professional practice, responsibilities and liabilities, environmental legislation, social impacts of engineering services, relations between engineer, client and general public with regards to moral issues and ethics in Islam. Contemporary applications.

2. Course Main Objective

By the completion of the course, the student should be able to:

1.1 Understand the system of moral principles confronting in engineering practices.

1.2 Introduce the ethical and professional responsibilities of engineers.

1.3 Build professional reputation strongly based on the principles of truthfulness and professional excellence.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the system of moral principles confronting in engineering practices.	K1
1.2		
1.3		
1...		
2	**Skills :**	
2.1	Introduce the ethical and professional responsibilities of engineers.	S2
2.2	Build professional reputation strongly based on the principles of truthfulness and professional excellence.	S3
2.3		
2...		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Ethics and Professionalism	2
2	Moral Reasoning and Codes of Ethics	1
3	Moral Frameworks	2
4	Engineering as Social Experimentation	3
5	Commitment to Safety	3
6	Workplace Responsibilities and Rights	2
7	Truth and Truthfulness	1
8	Environmental Ethics	3
9	Ethics in Islam	3
Total		20

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 system of moral principles confronting in engineering practices.	• Lectures • Homework • Assignments	• Mid and Final exams) • Monthly quizzes • Evaluated homework
1.2			
…			
2.0	**Skills**		
2.1	Introduce the ethical and professional responsibilities of engineers.	• Lectures • Homework • Assignments	• Mid and Final exams) • Monthly quizzes • Evaluated homework
2.2	Build professional reputation strongly based on the principles of truthfulness and professional excellence.		
…			
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quiz	Continuous Assessment	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard and by the computer

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	"Introduction to Engineering Ethics", Mike Martin, Roland Schinzinger, 3rd ed., 2010."
Essential References Materials	None
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Computer Aided Design and Manufacturing (CAD/CAM)**
Course Code:	**IE4803**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Thirteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Manufacturing Processes (2)**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

Fundamentals of computer aided engineering and design. CAD applications. Geometric modelling. Engineering analysis and finite element technique. Fundamentals of computer aided manufacturing, CNC concepts and part programming. CAD / CAM integration. Tooling for Hole and Milling Operations. Programming Hole and Milling Operations.

2. Course Main Objective

1. What is the main purpose for this course?

- Understand basic concepts of Computer Numerical Control (CNC) machines.
- Differentiate between tooling for Hole and Milling operations.
- Program Hole and Milling operations.
- Develop/compute the process plan of simple components from drawing, write the part program in Machine Language and execute it on a model CNC machine Also, write part program in APT for simple 2-D components.
- Explain/use the working principles of different types of Robots and be able to write programs in VAL II. Also, explain the philosophy and methods of Group Technology (GT).

2. Explain the basic principles of CAPP and how CIMS work. Also, explain the philosophy and working principles of Flexible Manufacturing System (FMS).
3. Briefly describe any plans for developing and improving the courses 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):

- Changes in content as a result of new research in the field.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of CNC Machines.	K2
1.2	Comprehend the different types of CNC machines especially drilling, milling and lathe machines.	K2
1.3		
1...		
2	**Skills:**	
2.1	Understand the basic principles and techniques of CAM	S1
2.2	Understand the different machining operations and tooling used for these operations	S1
2.3	Explore the advanced features of the modern CNC machining centers.	S2
2.4	Understand and write NC part programs.	S2
2.5	Understand the preparatory and auxiliary functions	S2
2.6	Explain/ Use the working principles of different types of Robots and be able to write programs for them	S3
2.7	Explain the methods of Group Technology (GT) and develop some ability to design machine cells based on GT	S3
2.8	Understand the basic principles of CAPP and how CIMS work	S4
2.9	Explain the working principles of Flexible Manufacturing System (FMS)	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction: Introduction to CNC manufacturing, modern machine tool control, safety instruction	2
2	Drilling and Milling Operations: Introduction, Tooling for drilling and milling operations, features of CNC machining centers, word address programming	4
3	Programming hole operations, linear profile and circular profile cutter diameter compensation	4
4	Sub programming	2
5	Lathe Operation: Introduction to CNC lathe operation and programming	3
6	Computer Aided Part Programming: What are CAPP, using APT programming	4
7	Robot Technology: Physical configurations, basic motions, work cell control, robot programming methods, VAL II programming, application of robot structure	4
8	Group Technology: Part families, classification and coding systems, group technology and machine cells	3
9	Computer Integrated Manufacturing: Benefits of CIM, machine tools and related systems, automated material handling system, flexible manufacturing system (FMS)	4
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	Develop the knowledge of CNC Machines	• Lectures • Homework • Assignments • Exams and quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
1.2	Comprehend the different types of CNC machines especially drilling, milling and lathe machines		
…			
2.0	**Skills**		
2.1	Understand the basic principles and techniques of CAM	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • Assignments • Exams and quizzes
2.2	Understand the different machining operations and tooling used for these operations		
2.3	Explore the advanced features of the modern CNC machining centers.		
2.4	Understand and write NC part programs.		
2.5	Understand the preparatory and auxiliary functions		
2.6	Explain/ Use the working principles of different types of Robots and be able to write programs for them		
2.7	Explain the methods of Group Technology (GT) and develop some ability to design machine cells based on GT		
2.8	Understand the basic principles of CAPP and how CIMS work		
2.9	Explain the working principles of Flexible Manufacturing System (FMS)		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework assignments	Continuous Assessment	15%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	10%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard
- Tutoring
- Factory Trip
- Product Design on Sinumerik Software (CAD) in lab

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Valentino J., and Goldenberg J., Introduction to Computer Numerical Control (CNC), 5th ed, Prentice Hall, 2012
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	• Mikell P. Groover, and Emory W. Zimmers, Jr.: "CAD/CAM: Computer-Aided Design and Manufacturing", Prentice Hall, Inc. 1990. • Simulation software's and Auto CAD are used for programming

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

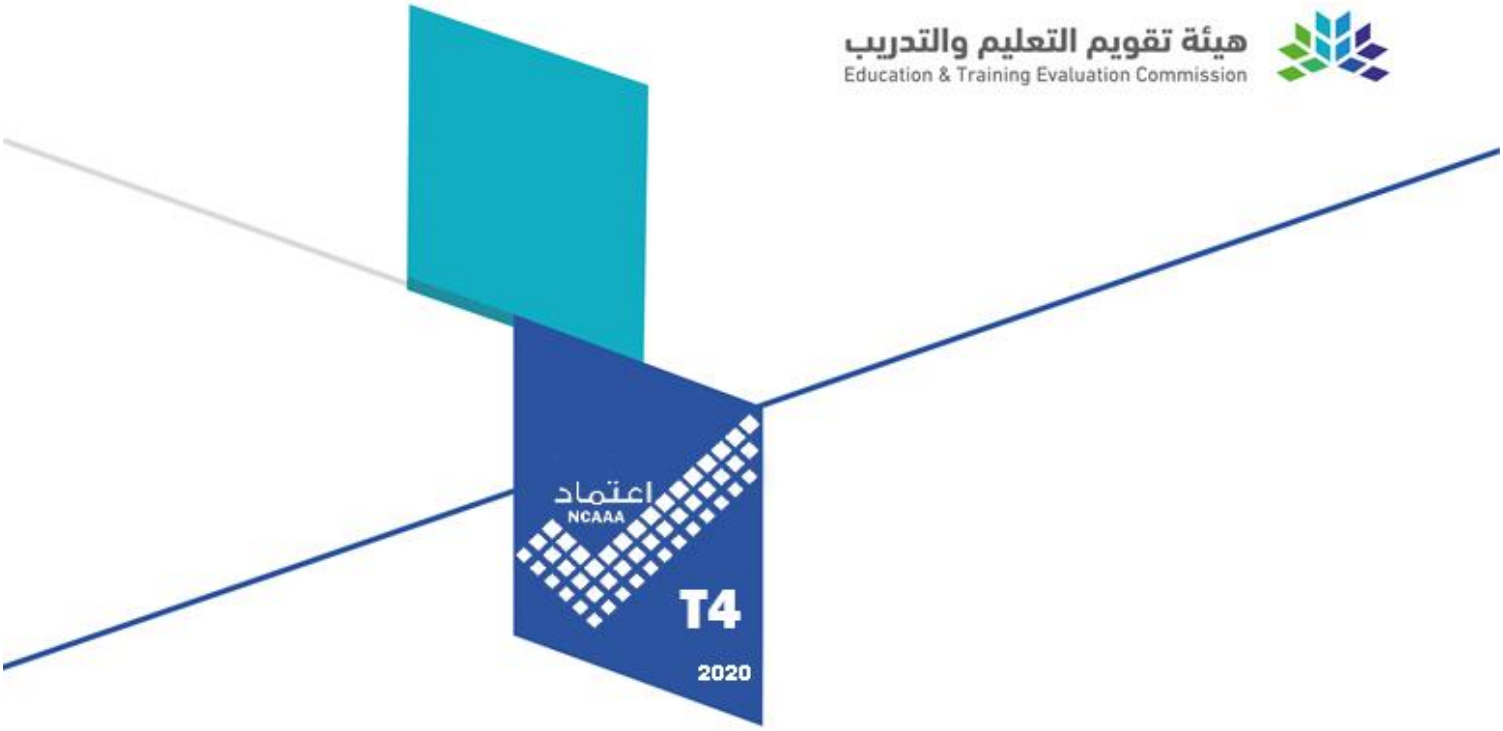
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Industrial Information Systems**
Course Code:	**IE4208**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Thirteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Production Planning and Inventory Control**
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**	60	100%
2	**Blended**		
3	**E-learning**		
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

Framework for enterprise information systems. Engineering and scientific systems. Requirement's definition, enhanced entity relationship modeling, logical modeling, structured query language, relational model, referential integrity. Object-oriented modeling, Unified Modeling Language, software development concepts, file and database connectivity, and visual programming skills (Microsoft Visual Basic) for use in developing industrial applications such as process monitoring and supply chain management.

2. Course Main Objective

1. What is the main purpose for this course?

The student, upon completion of this course, will be able to:

- Understand the importance of data in management engineering and explain the data process (measure, registration, storage, transformation)
- Able to develop a conceptual database design using the Entity-Relationship model.
- Able to transform an Entity-Relationship conceptual model to a relational model that is normalized to 3rd Normal Form (3NF).
- Able to construct a query of a relational database and represent the query with Relational Algebra operations and with Structured Query Language (SQL) commands.
- Able to apply the concepts of relational database computing to the design and development of a custom database.
- Able to identify practical database implementation issues and solutions.
- Explain the concept of object-oriented design (OOD).
- Explain the structure of a paper-based information system, related procedure systems and an ERP.

Explain the process of prospective Scoreboard and KPI generation in information system software.

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):

- Working with a didactic ERP (like prelude or e-prelude) and software for UML-based design
- Initiate a learning computer club for Data Base Management System (specific MS Access and Oracle)

Initiate a club of dynamic web 2.0 implementation, associated with periodic college

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of Information Systems (IS) components and Database Management Systems (DBMS)	K2
1.2	Know UML methodology steps and tools for the design of industrial, business and dedicated Information Systems	K2
1.3	Apprehend the relationship between IS and DBMS	K2
1.4	Have a mastery of the components and the programming techniques related to building and manipulating a database	K2
2	**Skills:**	
2.1	Acquire a practical know-how about software assisting modeling and building different diagrams of Information Systems architecture by alignment with UML methodology and its standards	S1
2.2	Know what the different types of databases are (pro and con)	S1
2.3	Design successfully a relational database	S3
2.4	Evaluate with scientific criterions the design of a relational database and an information system	S4
2.5	Do basic and advanced SQL statements and write stored procedures	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to Information Systems: IS for Competitive Advantage, Information Technology and e-Commerce context, Introduction to Data Basis and information management (start Microsoft Access in lab sessions)	2
2	Steps and Levels of Information Systems Project	2
3	Design methodologies: Relational models and Unified Modeling Language (UML)	4
4	Structured Query Language (SQL): Data Definition Language, Data Manipulation Language and Database programming (SQL with Microsoft Access in lab sessions)	4
5	Information System and DBMS: Database management systems, Microsoft Access and/or MySQL DBMS, tables, visual and SQL queries, forms, reports, pages, conceptual and relationships models	4
6	Review of UML design softwares (start SysML, Fliffy in lab sessions)	2
7	UML techniques: Many-to-many, Subkeys, Repeated attributes, Multivalued attributes, Domains, Enumerated domains, Subclasses, Aggregation, Recursive associations, Normalization, Queries, DDL & DML, Join, Multiple joins, Join types, Functions, Subqueries, Union & minus, Views & indexes	4
8	Introduction to ERP softwares (e-Prelude in lab sessions): technical data ERP modules, planning and control modules, prospective Scoreboards and KPI in analysis modules.	3
9	CRM module in Information System and other Customized Decision Support Systems	3
10	Information System Security, Ethics and regulation: normalization in Information System Design	2
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	Develop the knowledge of Information Systems (IS) components and Database Management Systems (DBMS)	• Lectures • Homework • assignments,	• Two exams (Mid. and Final) • Monthly quizzes • Evaluated homework
1.2	Know UML methodology steps and tools for the design of industrial, business and dedicated Information Systems		
1.3	Apprehend the relationship between IS and DBMS		
1.4	Have a mastery of the components and the programming techniques related to building and manipulating a database		
2.0	**Skills**		
2.1	Acquire a practical know-how about software assisting modeling and building different diagrams of Information Systems architecture by alignment with UML methodology and its standards	• Lectures are followed by numerous examples • Make access to a computer with database software • Tutorials • Conduct experiments using different software's • Using internet • Engage students in brainstorming sessions and research projects about IS	• Homework • Assignments Exams and quizzes
2.2	Know what the different types of databases are (pro and con)		
2.3	Design successfully a relational database		
2.4	Evaluate with scientific criterions the design of a relational database and an information system		
2.5	Do basic and advanced SQL statements and write stored procedures		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	judgements in engineering practice based on legal and ethical principles		
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quiz	Continuous Assessment	15%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Management Information Systems (14th Edition) Managing the Digital Firm, by Kenneth C. Laudon, Jane P. Laudon, Published 2015 by Prentice Hall
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	MS Access, Prelude ERP, starUML, SysML, Fliffy

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Capstone Project II**
Course Code:	**IE4902**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

A. Course Identification

1. Credit hours: 2
2. Course type **a.** University ☐ College ☑ Department ☐ Others ☐ **b.** Required ☑ Elective ☐
3. Level/year at which this course is offered: Fourteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Capstone Project I**
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**	20	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	20
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	20

B. Course Objectives and Learning Outcomes

1. Course Description

In continuation of Capstone Project (1), each teamwork is required to acquire data, conduct preliminary designs and feasibility studies and evaluate alternatives in preparation for Capstone Project (3). Project team is required to submit and present technical progress report.

2. Course Main Objective

By the completion of the course, students should be able to:
1. Understand the need to construct a model of real-life work.
2. Get training on reading/ writing/ research skills.
3. Operate effectively within a team.
4. Identify the data and information needed to solve the problem as well as the appropriate data collection methods.
5. Collect and review related data such as technical information, regulations, standards, and operational experiences from reliable resources.
6. Evaluate proposed solutions and select the optimal one.

7. Discuss all applicable realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability.
8. Plan an effective design strategy, using standard project planning techniques, to ensure project completion on time and within budget.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the need to construct a model of real-life work.	K1
1.2	Collect and review related data such as technical information, regulations, standards, and operational experiences from credible literature resources.	K2
1.3		
1...		
2	**Skills:**	
2.1	Identify all applicable realistic constraints	S2
2.2	Plan an effective design strategy	S2
2.3	Ability to collect data and information required to complete the project from reliable resources.	S4
2...	Ability to communicate effectively with arrange of audience	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Research activities: research strategies, citations, notations, and bibliography.	4
2	Work activities: all work assigned throughout the course.	4
3	Identify the data and information needed to solve the problem	4
4	Discuss all applicable realistic constraints	4
5	Plan an effective design strategy	4
...		
Total		20

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 need to construct a model of real-life work.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
1.2	Collect and review related data such as technical information, regulations, standards, and operational experiences from credible literature resources.	• Weekly progress meetings	• Mid-term progress report • Final oral presentation
…			
2.0	**Skills**		
2.1	Identify all applicable realistic constraints	• Weekly progress meetings	• Mid-term progress report • Final oral presentation
2.2	Plan an effective design strategy		
2.3	Collect and review related data		
2.4	Ability to communicate effectively with arrange of audience		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	• Weekly progress meetings	• Mid-term progress report Final oral presentation
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	• Weekly progress meetings	• Mid-term progress report Final oral presentation
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Continuous assessment and project presentation and defense	10	100%
2			
3			
4			

***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 2 hours per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	NA

Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	NA

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show projector • Computer compatible with projector • Microsoft office (word, Excel and PowerPoint).
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. Department Instructor
Review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Facilities Planning and Design**
Course Code:	**IE4705**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fourteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Supply Chain Engineering and Logistics**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Strategic facilities planning, location selection ،product, process and schedule design, flow, space and activity relationships, personnel requirements, material handling systems (MHS), layout, Computer-Aided Layout, warehouses design project. The course includes machines selection and location, flow planning, workshop and production lines and cells design. It emphasizes on production systems, automation, material handling, workers flow, storage and warehousing.

2. Course Main Objective

1. What is the main purpose for this course?

At the end of the course the students will be able to:

- Discuss the importance of facility design on the production efficiency of a facility.
- Explain the relationships between facility design and material handling
- Comprehend the basic facility design procedure and how to conduct a basic facility design project.
- Comprehend the basic algorithms available in analyzing facility design problems and how to use them
- Solve facility design problems.

Teach students facility design problems in manufacturing and warehousing to illustrate the application of design.

2. Briefly describe any plans for developing and improving the course that are being implemented. Encourage to have in the college Computer and Programming Clubs for basic programming and for specific programming; Launch computer programming competitions related to practical issues.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Comprehend facility layout planning methods, as well as the inter-relationships between physical layouts (of facilities, departments, or work cells), process flows, and material handling systems.	K1
1.2	Comprehend techniques for generating and evaluating facility layout solutions	K2
1.3	Find the factors for selecting facility and machine's locations and flow plans in different production settings.	K2
1.4	Comprehend the relationship between facility layout, product and process typologies, material handling resources and production capacity and quality	K2
2	**Skills :**	
2.1	Analyze product, process and schedule design interactions by studying the functions involved in the product development cycle.	S1
2.2	Solve the facility design problems through analyzing layout models and design algorithms theoretically and using necessary modern engineering tools.	S2
2.3	Apply the methods of facility layout planning.	S2
2.4	Use layout models and design algorithms theoretically and necessary modern engineering tools.	S3
2.5	Use both analytical and qualitative techniques to evaluation solutions to facilities layout problems.	S3
2.6	Design material handling systems through different material handling equipment and material handling principles.	S4
2.7	Apply systematic layout planning of manufacturing cells techniques on a real-world facility design project.	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction: Product development process, Production System Supply chain engineering, Material flow	1
2	Facilities planning and production design data: Relationships between product, process, and schedule design problems, Product design, Process design and process planning, Schedule design, Machine and personnel requirements	3
3	Classification of material and equipment, Types of material handling equipment Requirement's calculations	2
4	Simplified Systematic Facilities layout and material handling: Introduction & scope of material handling, Objectives of layout and material handling, Basic principles of material handling, Material handling systems design process, Unit load versus bulk handling, Unit load system design	4
5	Flow analysis and space analysis: activity relationships, Department formation, Activity relationships, Space requirements, equipment and flow analysis, simulation models	4
6	Manufacturing cells and systematic planning of cells: Cell layout planning and detailed cell plans, simulation models	4
7	Layout design methods and algorithms: Types of layouts, Layout design procedure, Qualitative approaches, multi-floor facility layout, Design for layout changes, developing layout alternatives, Layout evaluation, selection, & implementation, Specification of evaluation criteria, Evaluate of layout alternatives, Comparison of alternatives, Selection of the preferred alternative, Linkage Method, mathematical models, simulation models	6
8	Layout Implementation and monitoring: Documentation & presentation, Implementation, Monitoring and updating Warehouse operation and layout, Models of warehouse layouts, Cube space utilization, Warehouse operations, Storage systems	6
9	Single facility location models: Minimum problems, Minimax Quadratic assignment problem, Warehouse layout models, Storage models, simulation models	3
10	Product development process: Production System Supply chain engineering, Material flow	3
11	Capacity Planning and flow management: lot-sizing, line balancing, flow schedule design, flow process chart (worker-type…), travel chart, string diagram, multiple activity chart, bottleneck and theory of constraints/OPT, online process chart, Value Stream Mapping	4
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	Comprehend facility layout planning methods, as well as the inter-relationships between physical layouts (of facilities, departments, or work cells), process flows, and material handling systems.	• Lectures • Homework • assignments,	• Two (Mid. and Final exams) • Monthly quizzes • Evaluated homework • Team project presentation
1.2	Comprehend techniques for generating and evaluating facility layout solutions		
1.3	Find the factors for selecting facility and machine's locations and flow plans in different production settings.		
1.4	Comprehend the relationship between facility layout, product and process typologies, material handling resources and production capacity and quality		
2.0	**Skills**		
2.1	Analyze product, process and schedule design interactions by studying the functions involved in the product development cycle.	• Lectures are associated with practical Industrial Engineering examples • Involve students in research projects + method implementation using Excel	• Homework • Assignments • Discussion skills, scientific curiosity and critical sense are individually evaluated through oral questions and quizzes
2.2	Solve the facility design problems through analyzing layout models and design algorithms theoretically and using necessary modern engineering tools.		
2.3	Apply the methods of facility layout planning.		
2.4	Use layout models and design algorithms theoretically and necessary modern engineering tools.		
2.5	Use both analytical and qualitative techniques to evaluation solutions to facilities layout problems.		
2.6	Design material handling systems through different material handling equipment and material handling principles.		
2.7	Apply systematic layout planning of manufacturing cells techniques on a real-world facility design project.	Report for actual problem	Presenting and discuss in classroom
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	activities appropriate to the program's discipline		
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quiz	Continuous Assessment	15%
4	Final Exam	During 12th Week	40%
5			
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	J.A. Tompkins, J.A. White, Y.A, Bozer, J.M.A. Tanchoco, Facilities Planning, John Wiley & Sons
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	maintenance software, Microsoft Excel, Matlab/Arena, CAD software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

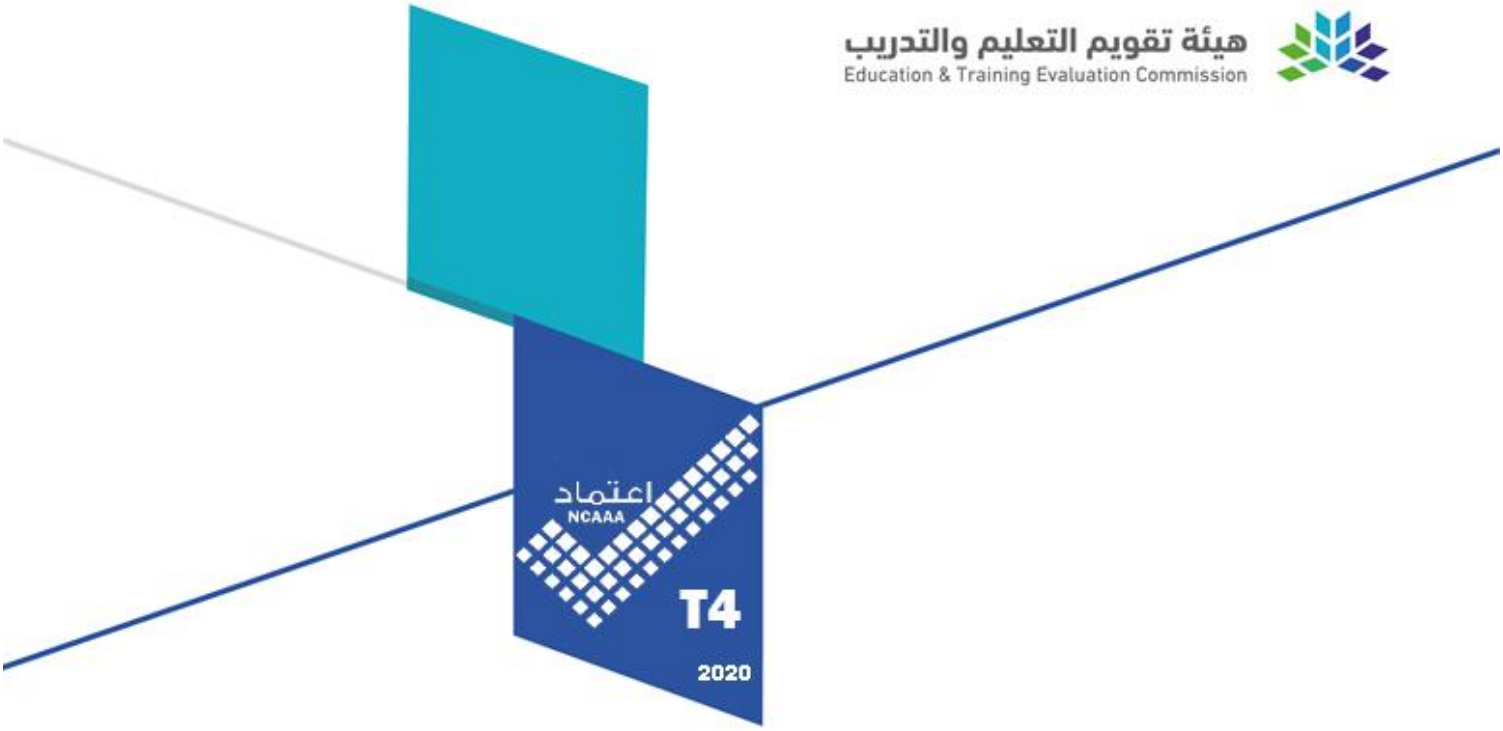
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Industrial Projects Management**
Course Code:	**IE4706**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fourteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Organizational and Human Resources Management**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

The course is focused on planning and control activities in contract-based projects and change projects in several industrial areas. The established project management theory is compared to a number of cases. Starting by providing a basic understanding of the project management discipline and profession, the course goes on to topics such as project planning, project organizing and management control and project leadership. Comprehensive integrated planning for all the activities required for project success using the project life cycle. Gantt chart, activity on arrow, activity on node for scheduling time, expenditure, and resources. Time/Cost analysis and resource allocation.

2. Course Main Objective

1. What is the main purpose for this course?

   At the end of the course the students will be able to:

   - Identify why and how Project Management can be used to enhance the competitiveness of modern industrial organizations
   - Identify the structure of Project Management as a field of knowledge and apply basic concepts of the field
   - Identify the main characteristics and differences of/between industrial delivery projects, product development projects and internal development projects.
   - Formulate project goals that are realistic, solution-neutral and evaluable
   - Apply tools such as WBS/PBS, OBS, Gantt and PERT/CPM for detailed time planning of a project, and also be able to choose what tools that should/should not be used
   - Apply a theoretical risk management process and use simplified tools Describe a project budgeting process and implement the use of Earned Value Management
   - Identify the relation between projects and permanent organizations, and describe what different solutions that exist in order to alleviate the problems inherent in that relation
   - Identify the relation between projects and their external environments and apply a stakeholder management process to a specific project
   - Evaluate the main tasks and responsibilities of project managers
   - Analyze a real-life project by means of Project Management concepts and tools, and give recommendations on how to improve the management of that project

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

Changes in content as a result of new research in the field

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Comprehend why and how Project Management can be used to enhance the competitiveness of modern industrial organizations	K1
1.2	Comprehend the structure of Project Management as a field of knowledge and explain basic concepts of the field	K2
1.3	Identify the main characteristics and differences of/between industrial delivery projects, product development projects and internal development projects.	K2
1...		
2	**Skills:**	
2.1	Evaluate a theoretical risk management process and use simplified tools Describe a project budgeting process and explain the use of Earned Value Management	S1
2.2	Evaluate the main tasks and responsibilities of project managers	S2
2.3	Describe the relation between projects and permanent organizations, and describe what different solutions that exist in order to alleviate the problems inherent in that relation	S3
2.4	Describe the relation between projects and their external environments and apply a stakeholder management process to a specific project	S3
2.5	Use tools such as WBS/PBS, OBS, Gantt and PERT/CPM for detailed time planning of a project, and also be able to choose what tools that should/should not be used	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Project planning and organizing	4
2	Management control and project leadership	6
3	Comprehensive integrated planning for all the activities required for project success using the project life cycle	9
4	Gantt chart, activity on arrow, activity on node for scheduling time	6
5	Expenditure, and resources	6
6	Time/Cost analysis and resource allocation	9
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	Comprehend why and how Project Management can be used to enhance the competitiveness of modern industrial organizations	• Lectures • Homework • Assignments • Exams and quizzes	• Tested by giving them two exams and three quizzes • Given homework assignments
1.2	Comprehend the structure of Project Management as a field of knowledge and explain basic concepts of the field		
1.3	Identify the main characteristics and differences of/between industrial delivery projects, product development projects and internal development projects.		
2.0	**Skills**		
2.1	Evaluate a theoretical risk management process and use simplified tools Describe a project budgeting process and explain the use of Earned Value Management	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • Assignments • Exams and quizzes
2.2	Evaluate the main tasks and responsibilities of project managers		
2.3	Describe the relation between projects and permanent organizations, and describe what different solutions that exist in order to alleviate the problems inherent in that relation		
2.4	Describe the relation between projects and their external environments and apply a stakeholder management process to a specific project		
2.5	Use tools such as WBS/PBS, OBS, Gantt and PERT/CPM for detailed time planning of a project, and also be able to choose what tools that should/should not be used		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Team Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

Weekly office hours

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Maylor, H. (2005) /Project Management/, 3ed. Harlow: Pearson Education Ltd
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture room capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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

توصيف المقرر الدراسي

اسم المقرر:	توصيف مقرر الثقافة الإسلامية (٤)
رمز المقرر:	ICC4204
البرنامج:	البكالوريوس
القسم العلمي:	الدعوة والثقافة الإسلامية
الكلية:	الدعوة وأصول الدين
المؤسسة:	جامعة أم القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة:

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)

ثقافة إسلامية ١٠١ ، ثقافة إسلامية ٢٠١ ، ثقافة إسلامية ٣٠١

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**	**لا ينطبق**	**لا ينطبق**
2	**لتعليم المدمج**	**لا ينطبق**	**لا ينطبق**
3	**التعليم الإلكتروني**	**لا ينطبق**	**لا ينطبق**
4	**التعليم عن بعد**	٢٠	%٩٠,٩٠
5	**أخرى: (الاختبارات النصفية والنهائية)**	٢ساعتان	%٩,٠٩

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات: (بواقع ساعتين في الأسبوع لمدة ١٠ أسبوعا)	٢٠
٢	معمل أو استوديو	لا ينطبق
٣	دروس إضافية	لا ينطبق
٤	أخرى (تذكر): (الاختبارات النصفية والنهائية)	٢ ساعتان
الإجمالي		٢٢

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

يقدم هذا المقرر مادة علمية تأصيلية عن الأخلاق في الإسلام، من حيث مفهومها ومنزلتها وأسسها وأبرز جوانبها، وعن الجانب الخلقي العظيم لرسولنا الكريم صلى الله عليه وسلم ، ثم يعرض تطبيقات أخلاقية ترقى بالمجتمع وتحافظ عليه

٢. الهدف الرئيس للمقرر:

- أن يتعرف الطالب على أهمية ومنزلة الأخلاق في الإسلام .
- أن يدرك الطالب مدى ارتباط الأخلاق بالسعادة في الدارين .
- أن يلم الطالب بالجوانب الخلقية لدى الرسول القدوة ﷺ .
- أن يربط الطالب بين الأخلاق ورقي المجتمع واستقامته .
- أن يتعرف الطالب على تطبيقات القيم والأخلاق ، وأهميتها في واقع حياته

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	يعّرف سمات المجتمع المسلم والمجتمعات المغايرة	

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1.1	يستعرض مفهوم الأخلاق وأهميتها.	
1.2	يعدد أبرز مصادر الأخلاق في الإسلام، ويلم بخصائص هذه المصادر.	
1.3	يصف أهم الأخلاق الفردية والاجتماعية.	
1.4	يشـــرح أبرز القضـــايا النبوية المرتبطة بأخلاق النبي صـــلى الله عليه وســـلم وأثرها على الفرد والجماعة.	
2	**المهارات**	
2.1	يوظف محاسن الأخلاق في الدعوة إلى الله بحكمة وبصيرة.	
2.2	يستخدم الأخلاق الحميدة في توعية وتثقيف الحجاج والمعتمرين.	
2.3	يحلل نصوص القرآن الكريم والسنة النبوية المرتبطة بالأخلاق.	
2.4	يرد على شبه المناوئين للدعوة الإسلامية وفق منهج أخلاقي قويم.	
3	**القيم**	
3.1	يشارك زملاءه في إعداد أبحاث وواجبات متعلقة بالمادة بمسؤولية واستقلالية	
3.2	اكتساب الخلق القويم والقيم الأصيلة من خلال التعلم الذاتي والتعاوني.	
3.3	يتمثل القيم والأخلاق الإسلامية الحميدة وأخلاقيات المهنة	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	**مدخل إلى الأخلاق في الإسلام:** يدرس الطالب في هذه المفردة مدخلاً عامًا للأخلاق في الإسلام وذلك من حيث : المفهوم، الأهمية، الأسس، الخصائص، المقارنة بالأخلاق قبل الإسلام .	٢
٢	**عناية الإسلام بالأخلاق الفردية:** يدرس الطالب في هذه المفردة تأصيلاً للأخلاق الفردية وبيان أهميتها مع ذكر أمثلة لها :كالصدق، والرفق، والتواضع، وغيرها من الأخلاق الفردية. **عناية الإسلام بالأخلاق الاجتماعية:** يدرس الطالب في هذه المفردة تأصيلاً للأخلاق الاجتماعية وبيان أهميتها مع ذكر أمثلة لها كالأمانة، والوفاء، والتراحم، وغيرها من الأخلاق الاجتماعية.	٢
٣	**ثمرات الأخلاق في الإسلام:** يدرس الطالب في هذه المفردة الثمرات الدنيوية والأخروية للأخلاق في الإسلام	٢
٤	**النبي ﷺ كما وصفه ربه تعالى:** يدرس الطالب في هذه المفردة أخلاق النبي ﷺ التي وصفها به الله تعالى ، وجوانب الاقتداء به ﷺ .	٢
٥	**أخلاق النبي ﷺ مع أسرته وأهل بيته:** يدرس الطالب في هذه المفردة أخلاق النبي ﷺ مع زوجاته ، وأولاده ، وخدمه ، وقرابته ، وجوانب الاقتداء به ﷺ .	٢
٦	**أخلاق النبي ﷺ مع صحابته ومجتمعه:** يدرس الطالب في هذه المفردة أخلاق النبي ﷺ مع المجتمع المسلم حوله ﷺ كالصحابة ونحوهم ، وجوانب الاقتداء به ﷺ .	٢
٧	**أخلاق النبي ﷺ مع المخالفين:** يدرس الطالب في هذه المفردة أخلاق النبي ﷺ مع المخالفين كالمشركين ، والمنافقين ، وأهل الكتاب ، وأهل الأديان الأخرى ، وجوانب الاقتداء به ﷺ	٢
٨	**تعظيم البلد الحرام وخدمة الحجاج والمعتمرين:** يدرس الطالب في هذه المفردة بيان مفهوم تعظيم البلد الحرام ، ومكانته ، وفضائله، وفضل ومكانة خدمة الحجاج والمعتمرين، مع ذكر أمثلة أخلاقية تطبيقية .	٢

٩	**تعزيز سلوكيات المواطن الصالح:** يدرس الطالب في هذه المفردة بيان مفهوم المواطن الصالح في الإسلام، والسلوكيات التي يجب على المواطن التحلي بها، والتأكيد على قيم الانتماء الوطني ، وذكر أمثلة أخلاقية تطبيقية ، وفي مقابل ذلك التحذير من التيارات المنحرفة والجماعات المتطرفة التي تدعو إلى خلاف ذلك .	٢
١٠	**الحث على العمل، تعزيز النزاهة، ومحاربة الفساد:** يدرس الطالب في هذه المفردة بيان مفهوم العمل وكسب الرزق في الإسلام وذكر أمثلة تطبيقية لأخلاقيات المهنة. يدرس الطالب في هذه المفردة بيان مفهوم النزاهة في الإسلام، وأهميته، وذكر أمثلة أخلاقية تطبيقية لمحاربة الفساد.	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	يعرف مفهوم الأخلاق وأهميتها.	المحاضرات والمناقشات	الاختبارات التحريرية والشفوية. وأوراق عمل
1.2	يلم بأبرز مصادر الأخلاق في الإسلام، ويلم بخصائص هذه المصادر.	التعلم الذاتي ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات تكليف الطالب بعمل بحث أو ورقة عمل	الاختبارات التحريرية والشفوية. عرض البحوث والمناقشة
1.3	يذكر أهم الأخلاق الفردية والاجتماعية.	المحاضرات والمناقشات ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	الاختبارات التحريرية والشفوية. وأوراق عمل
1.4	يلم بأبرز القضايا النبوية المرتبطة بأخلاق النبي صلى الله عليه وسلم وأثرها على الفرد والجماعة.	الاستقراء والعصف الذهني المحاضرات والمناقشات	الاختبارات التحريرية والشفوية.
2.0	**المهارات**		
2.1	يوظف محاسن الأخلاق في الدعوة إلى الله بحكمة وبصيرة.	العصف الذهني الحوار والمناقشة زيارة بعض المواقع الالكترونية التي تعتني بهذا الموضوع	التقييم الجماعي أوراق عمل
2.2	يستخدم الأخلاق الحميدة في توعية وتثقيف الحجاج والمعتمرين.	الطريقة الاستقرائية ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	بحوث وواجبات تقييم قدرة الطلاب على الاستنباط والتحليل
2.3	يحلل نصوص القرآن الكريم والسنة النبوية المرتبطة بالأخلاق.	التعليم التعاوني الحوار والمناقشة	الملاحظة المباشرة والتقييم الجماعي
2.4	يرد على شبه المناوئين للدعوة الإسلامية وفق منهج أخلاقي قويم.	التعليم النشط ربط الطالب بالمراجع الأساسية والمساندة في معرفة هذه المفردات	الملاحظة المستمرة تقييم الأبحاث
3.0	**القيم**		

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
3.1	يشـــارك زملاءه في إعداد أبحاث وواجبات متعلقة بالمادة بمسؤولية واستقلالية	التعلم التعاوني التكليف بأبحاث وواجبات وأوراق عمل	الملاحظة المســتمرة وقويم الأداء وتقييم الأبحاث
3.2	اكتساب الخلق القويم والقيم الأصيلة من خلال التعلم الذاتي والتعاوني.	التعلم التعاوني	الملاحظة المستمرة والتقييم الجماعي
3.3	يتمثل القيم والأخلاق الإسـلامية الحميدة وأخلاقيات المهنة	التعليم التعـاوني من خلال التكليف بواجبـات وأبحـاث وأنشطة جماعية	تقييم الأبحاث الملاحظة المباشرة لسلوك الطلاب وتوجهاتهم

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	الاختبار التحريري والشفوي	منتصف ونهاية الفصل الدراسي	٦٠%
٢	التقويم المستمر	كل أسابيع الدراسة	١٠%
٣	عرض البحوث والمناقشة	التاسع	١٥%
٤	الملاحظة وتقويم الأداء	ابتداء من الأسبوع الرابع	١٥%

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- **تعريف الطالب بالمقرر**
- **متابعة بعض الحالات الفردية التي تحتاج إلى اهتمام خاص.**
- **توجيه الطالب الى كيفية الإفادة من التقنيات الحديثة.**
- **الساعات المكتبية.**
- **ربط جميع الطلاب بمرشدين أكاديميين لمساعدتهم على فهم متطلبات البرنامج وعمليات التسجيل.**
- **نشر جميع معلومات الاتصال الخاصة بعضو هيئة التدريس على الصفحة الرئيسية للمقرر الدراسي على البلاك بورد.**

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	الآداب الشرعية للحافظ ابن مفلح المقدسي . النزاهة في مواجهة الفساد : تجربة المملكة العربية السعودية ، لمحمد بن عبد الله الشريف . الشمائل المحمدية للإمام الترمذي .
المراجع المساندة	١- الأخلاق والسير لابن حزم الأندلسي . ٢- زاد المعاد في هدي خير العباد لابن قيم الجوزية . ٣- السيرة النبوية لابن هشام . ٤- الشفا بتعريف حقوق المصطفى صلى الله عليه وسلم للقاضي عياض .
المصادر الإلكترونية	المكتبة السعودية الرقمية
أخرى	

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعة دراسية مجهزة افتراضية مكتبة اليكترونية
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	أجهزة حاسوب مرتبطة بالنت قاعات افتراضية
تجهيزات أخرى (تبعاً لطبيعة التخصص)	لا يوجد

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	أعضـــاء هيئة التدريس، الطالب، لجنة الجودة، إدارة البرنامج	غير مباشر (الاستبانات)
فاعلية طرق تقييم الطالب	المراجع النظير	مراجعة عينات عشـــوائية من أوراق إجابات الطلاب
مدى تحصيل مخرجات التعلم	قيادات البرنامج	تقييم 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	مجلس القسم
رقم الجلسة	
تاريخ الجلسة	

هيئة تقويم التعليم والتدريب
Education & Training Evaluation Commission

اعتماد NCAAA T4 2020

Course Specifications

Course Title:	**Capstone Project III**
Course Code:	**IE4903**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Capstone Project II**
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**	30	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

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

B. Course Objectives and Learning Outcomes

1. Course Description

In continuation of Capstone Project II, each teamwork achieves a complete analysis and design of their projects. Each student in the team is expected to handle a specific task of the project and coordinate his work with the rest of the group. Each team is required to submit its preliminary results. At the end of the course, the teamwork is required to deliver a final presentation.

2. Course Main Objective

By the completion of the course, students should be able to:
1.1 understand the need to construct a model of real-life work.
1.2 learn the concepts of planning, careful thought, and critical analysis.
1.3 Get Training on reading/ writing/ research skills, and follow-through as much as a finished product. Learning the different research techniques such as field- work measurements, experimental setups, and computational simulations.
1.4 Apply theories learnt to real life problems using code provisions.

1.5 Understand the implications of assumptions in theory.
1.6 Understand the importance of research, research methodology and technical writing.
1.7 Understand and practice the basic concepts and elements of engineering design for a multidisciplinary industrial engineering project.
1.8 Carry out an integrated project planning, scheduling.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the need to construct a model of real-life work.	K1
1.2	Apply theories learnt to real life problems using code provisions	K1
1.3		
1...		
2	**Skills:**	
2.1	Ability to identify, formulate and solve the analytical and numerical problems associated with the project.	S1
2.2	Ability to design a system, component or process with defined constraints of the project.	S2
2.3	Ability to plan, design and conduct the laboratory or numerical experiments required for the project and to analyze and interpret the data.	S3
2.4	Ability to understand the codes and results regulating various aspects of the project and apply the codes wherever possible.	S4
2.5	Ability to prepare an engineering report of the project and present it demonstrating engineering communication skills.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Research activities: research strategies, citations, notations, and bibliography.	4
2	Work activities: all work assigned throughout the course.	4
3	Final Product: model, software, paper, theoretical study, etc.	8
4	Final Report: Written in good technical writing style. Also, a poster and copies of flyer should be prepared.	6
5	Presentation: Presentation before the Graduation Evaluation Committee. Presentation must be appropriate for department presentation rules and must be suited to the topic.	8
...		
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	Understand the need to construct a model of real-life work	• Weekly progress meetings	• Mid-term progress report • Final oral presentation
1.2	Apply theories learnt to real life problems using code provisions		
…			
2.0	**Skills**		
2.1	Ability to identify, formulate and solve the analytical and numerical problems associated with the project.	• Weekly progress meetings	• Mid-term progress report • Final oral presentation
2.2	Ability to design a system, component or process with defined constraints of the project.		
2.3	Ability to plan, design and conduct the laboratory or numerical experiments required for the project and to analyze and interpret the data.		
2.4	Ability to understand the codes and results regulating various aspects of the project and apply the codes wherever possible.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	• Weekly progress meetings	• Mid-term progress report Final oral presentation
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	• Weekly progress meetings	• Mid-term progress report Final oral presentation
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Continuous assessment and project presentation and defense	10	100%
2			
3			
4			
5			
6			
7			
8			

***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 2 hours per week

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	NA
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	NA

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	Classroom capacity: 10 seats Lab capacity: 10 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show projector • Computer compatible with projector • Microsoft office (word, Excel and PowerPoint).
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
Review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

Evaluation Areas/Issues	Evaluators	Evaluation Methods

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:	**Strategic Planning**
Course Code:	**IE4707**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Industrial Projects Management**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

This course focuses on conditions and policies influencing or changing the future. In addition, it addresses industrial issues of planning influencing the strategic decision level. Different concepts and methods will be studied. First, we understand the role of values creating to drive industrial systems into preferred futures. Then, we look at various approaches to envisioning preferred futures such as Visioning, SWOT analysis, Spiral dynamics, leadership policies, change management, etc. Next, we explore how to create practical plans to achieve that vision, such as Market Analysis, Cost Benefit Analysis, Business and Financial plans. Some specific industrial strategies can be explored like Keizen, Lean, OPT and JIT.

2. Course Main Objective

1. What is the main purpose for this course?

   At the end of the course the students will be able to:

   - construct a vision of a preferred future that can motivate others and guide actions to bring about the vision
   - describe values preferences and how they influence futures work
   - apply the basic tools and techniques of strategic planning like SWOT analysis and Spiral Dynamics
   - design and lead an effective meeting of strategic committee
   - define the key ideas of change management
   - evaluate strategic plans
   - construct business and financial plan
   - define the steps of value analysis techniques for a new product development

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).

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Distinguish between vision and strategic policies	K2
1.2	Explain the role and steps of value creation and value analysis	K2
1.3	Define the key principles of leadership and change management	K2
1.4	Describe Product Life-Cycle Management (PLM) and related strategies	K2
2	**Skills:**	
2.1	Apply the basic tools and techniques of strategic planning such as SWOT analysis, Spiral Dynamics, market analysis,	S2
2.2	Construct financial plans and business plans	S3
2.3	Evaluate quantitative performance measure of strategic plans	S4
2.4	Lead successfully effective meetings of industrial strategic committee	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Orientation and Value Creation	2
2	Steps of Value Analysis	5
3	SWOT Analysis	3
4	Spiral Dynamics	3
5	Introduction to Visioning: Approaches to Visioning, Future Search, Strategic Issues & Goals, Strategic Initiatives & Cases	3
6	Leadership and Change Management: Principles & Resistance to Change	3
7	Product Life-Cycle Management (PLM), Strategies of Material Management: Purchasing, storing and handling	3
8	Financial Planning and introduction to Business Plan	5
9	Event Marketing strategies, market analysis	3
10	Cost Benefit Analysis and evaluation of strategic plans: feasibility and profitability study of new projects	5
11	Other tools of industrial strategies: E-Business and workflow strategies, sustainability in strategic planning, Keizen, Lean, OPT and JIT	5
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	Distinguish between vision and strategic policies	• Lectures • Homework • Assignments	• Exams and quizzes • Team project presentations • Given homework assignments
1.2	Explain the role and steps of value creation and value analysis		
1.3	Define the key principles of leadership and change management		
1.4	Describe Product Life-Cycle Management (PLM) and related strategies		
2.0	**Skills**		
2.1	Apply the basic tools and techniques of strategic planning such as SWOT analysis, Spiral Dynamics, market analysis,	• Lectures • Homework • Assignments	• Exams and quizzes • Team project presentations • Given homework assignments
2.2	Construct financial plans and business plans		
2.3	Evaluate quantitative performance measure of strategic plans		
2.4	Lead successfully effective meetings of industrial strategic committee.	• Lectures • Homework • Assignments	• Exams and quizzes • Team project presentations • Given homework assignments
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizes	Continuous Assessment	10%

#	Assessment task*	Week Due	Percentage of Total Assessment Score
3	Team Project	During 11th Week	15%
4	Final Exam	During 12th 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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Strategic Planning for Public and Non-Profit Organizations, John Bryson
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	specific software

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

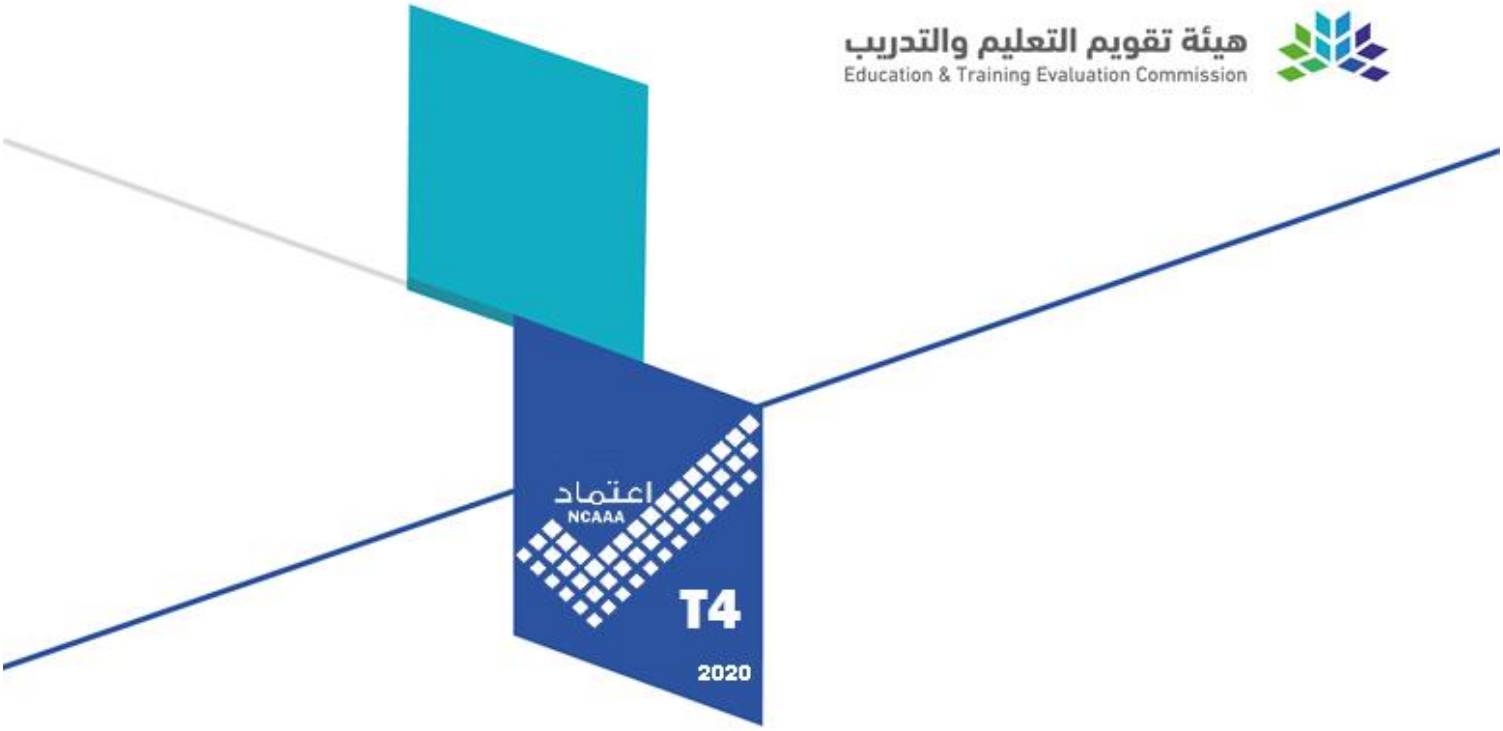
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Artificial Intelligence Applications in Industrial Engineering**
Course Code:	**IE4503**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Operations Research (2)**
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**	60	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

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

B. Course Objectives and Learning Outcomes

1. Course Description

Artificial intelligence (AI) studies how to realize the intelligent human behaviors on a computer. AI is to make a computer/machine capable to learn, plan, and solve problems autonomously. The course covers: problem solving, reasoning based on cases and experiences, planning, automatic programming, machine learning, knowledge-basis management, expert systems, pattern recognition, fuzzy logic, Bayesian and neural networks, genetic and evolutionary algorithms for optimal decision solving. Further, both natural language understanding, and computer vision can be solved using methods developed in the field of pattern recognition.

2. Course Main Objective

By the completion of the course, students should be able to:

1.1 Use basic AI approaches and apply them on industrial applications.
1.2 incorporate AI methods in decision making, pattern recognition, automatic reasoning and diagnosis, intelligent automation and control fields such as robotics, mechatronics, intelligent maintenance and manufacturing systems.
1.3 Implement a wide variety of both classical and modern AI algorithms.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify AI approaches	K2
1.2	Explain the basic principles of AI on industrial applications.	K2
1.3		
1...		
2	**Skills:**	
2.1	Describe AI concepts and its approaches.	S1
2.2	Formulate complex problems with AI methods.	S1
2.3	Implement traditional and conventional AI algorithms.	S3
2.4		
2.5		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to AI: Problem formulation, ontology, agents, rationality, IMS, learning, knowledge basis and reasoning, expert systems,	3
2	Symbolic logic, Propositional logic, First order predicate logic, Fuzzy logic	4
3	Other methods for reasoning: cases-based processes, knowledge management, experience plans and returns, learning	4
4	Knowledge representation and ontologies	4
5	Multilayer and Self-Organizing Neural Networks, Exact/approximate inference with Bayes networks, Markov logic networks	5
6	Intelligent agents, multi-agent environments and technique	4
7	Heuristics search, constraint propagation and backtracking search, evolutionary/genetic algorithms	3
8	Applications to Pattern Recognition and hierarchical planning	3
9		
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	Identify AI approaches	• Lectures • Homework • Assignments • Exams and quizzes • Project	• Exams and quizzes • Given homework assignments • Project
1.2	Explain the basic principles of AI on industrial applications.		
…			
2.0	**Skills**		
2.1	Describe AI concepts and its approaches.	• Lectures are followed by real life examples from industry. • Engage students in classroom interaction with making practice	• Homework • Assignments • Exams and quizzes • Project
2.2	Formulate complex problems with AI methods.		
2.3	Implement traditional and conventional AI algorithms.		
2.4			
2.5		• Animating initiative ad inventive lab sessions using programming and solver software.	• Presentation of a team project work
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Team Project	During 11th Week	15%
3	Homework Assignments	Continuous Assessment	10%
4	Quizes	Continuous Assessment	10%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Artificial Intelligence: A Modern Approach (3rd edition). Stuart Russell and Peter Norvig, Prentice Hall (2010)
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

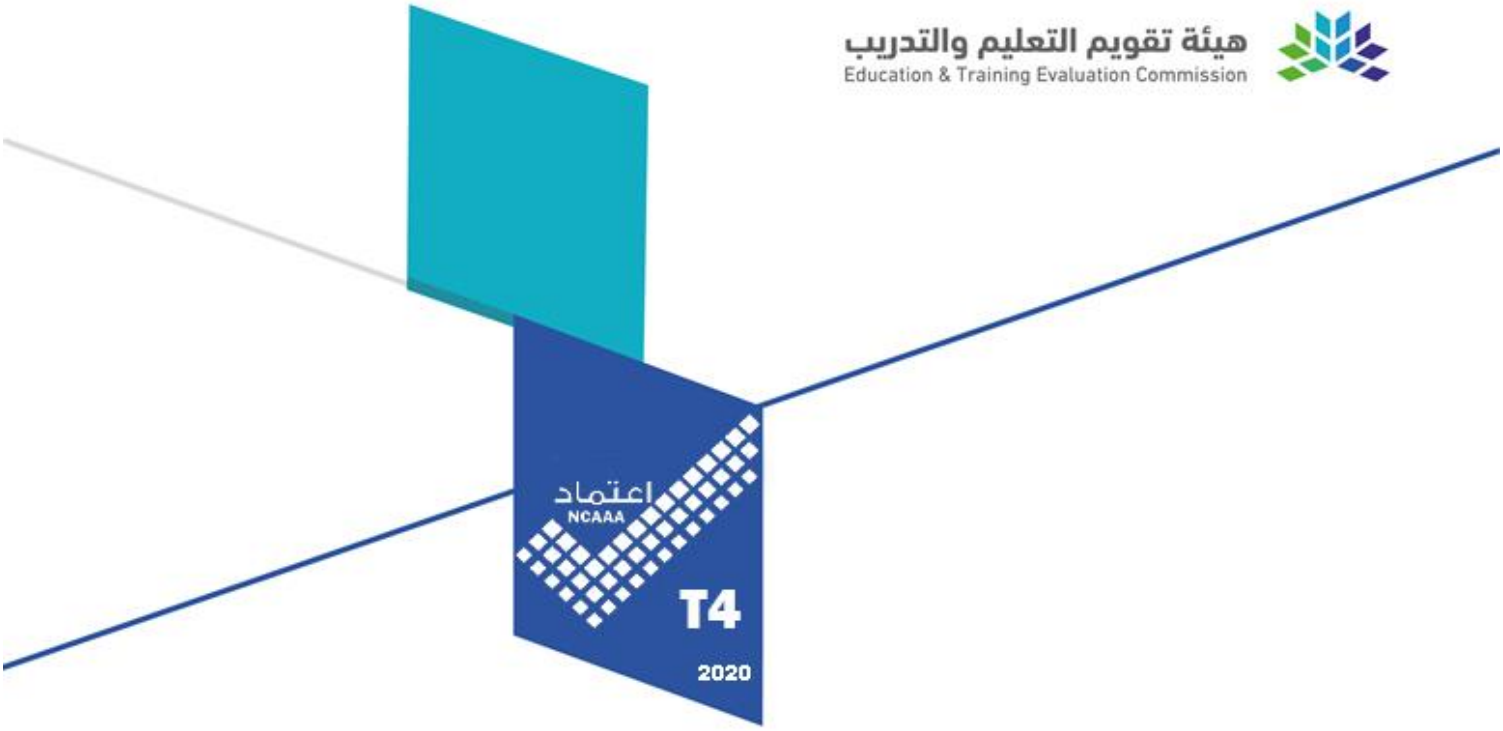
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Engineering Management**
Course Code:	**IE4708**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Industrial Projects Management**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Techniques relating to managing engineering activities; engineer's transition into management; engineering managerial functions; motivation of individual and group behavior; productivity assessment/improvement; managing the quality function and communications.

2. Course Main Objective

Upon completion of this course, the student will be able to:
1. Identify and utilize project management tools
2. Effectively use project reporting tools and techniques
3. Understand and appraise business change climate and how the changes have impacted project management
4. Understand the importance of risk, cost, schedule and resource control and management of projects.
5. Understand the need for effective project management skills, training and the specific training needs of project managers.
6. Write clear goal and objective statements and establish measurable criteria for project success,

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Understand the competitiveness of engineering management in modern industrial organizations.	K1
1.2	Comprehend the structure of engineering management and explain basic concepts of the field.	K2
1.3	Identify main characteristics and differences among different disciplines of engineering.	K2
1...		
2	**Skills:**	
2.1	Evaluate engineering management processes and use desired tools of engineering management.	S1
2.2	Evaluate tasks and responsibilities of engineering managers	S2
2.3	Describe the relation between engineering management and permanent organizations.	S4
2.4	Use engineering management tools and choose among them to deliver reliable project.	S5
2.5		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to engineering management	2
2	Organization strategy and project selection	5
3	Organization: Structure and culture	5
4	Defining the project	2
5	Estimating project times and costs	6
6	Developing a project plan	4
7	Managing risks	6
8	Scheduling resources and costs	6
9	Progress and performance measurement and evaluation	4
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	Understand the competitiveness of engineering management in modern industrial organizations.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
1.2	Comprehend the structure of engineering management and explain basic concepts of the field.		
1.3	Identify main characteristics and differences among different disciplines of engineering.		
2.0	**Skills**		
2.1	Evaluate engineering management processes and use desired tools of engineering management.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
2.2	Evaluate tasks and responsibilities of engineering managers.		
2.3	Describe the relation between engineering management and permanent organizations.		
2.4	Use engineering management tools and choose among them to deliver reliable project.		
2.5			
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Team Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

Weekly office hours

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Project Management, The Managerial Process Erik W. Larson and Clifford F Gray / 6th edition. McGraw Hill Education
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture room capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Decision Making Analysis**
Course Code:	**IE4407**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fourteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Design of Industrial Experiments**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

This course mainly covered in 4 topics. The first topic presents a classical Bayesian decision approach and the components of decision making; the second topic explores the Keeney-Raiffa multiattribute (utility) decision analysis methodology; the third topic examines group decision making; and the fourth topic examines decision making biases

2. Course Main Objective

By the completion of the course, students should be able to:

1.1 Apply classical Bayesian decision techniques.

1.2 Use knowledge to perform multi-attribute decision analysis approaches.

1.3 Apply group decision making processes.

1.4 Discover behavioral and psychological impacts on decision biases.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Recognize decision making concepts.	K1
1.2		
1.3		
1...		
2	**Skills :**	
2.1	Apply classical Bayesian decision techniques.	S3
2.2	Use knowledge to perform multi-attribute decision analysis approaches.	S4
2.3	Apply group decision making processes.	S5
2.4	Discover behavioral and psychological impacts on decision biases.	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Probability Review	2
2	Discrete Bayes Methods	4
3	Continuous Bayes Methods	4
4	Decision Theory	4
5	Introduction to Utility Functions	4
6	Value of Information	6
7	Multi-attribute decision analysis	6
8	Group decision making	6
9	Decision biases	4
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	Recognize decision making concepts.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
1.2			
…			
2.0	**Skills**		
2.1	Apply classical Bayesian decision techniques.	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
2.2	Use knowledge to perform multi-attribute decision analysis approaches.		
2.3	Apply group decision making processes.		
2.4	Discover behavioral and psychological impacts on decision biases.		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	20%
3	Quizzes	Continuous Assessment	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on blackboard
- Tutoring

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Winkler, Robert L., An Introduction to Bayesian Inference and Decision, Second Edition, Probabilistic Publishing, Inc., Gainesville, Florida, 2003.
Essential References Materials	Statistical Analysis for Decision Making. Morris Hamburg, 6th edition
Electronic Materials	None
Other Learning Materials	None

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Computer laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Advanced Quality Engineering**
Course Code:	**IE4408**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Thirteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Industrial Quality Control**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Advanced concepts of quality engineering. Statistical process control (SPC) methods; concept of parameter design and statistical as well as analytical techniques for its implementation, tolerance analysis and design, components of cost of poor quality and an introduction to quality management

2. Course Main Objective

By the end of the course the students will be able to:

1- Identify and outline the key statistical techniques used in quality engineering
2- Evaluate the capability of industrial processes to meet the required design specifications
3- Evaluate the propagation of error in linear and nonlinear environments
4- Design and implement a factorial experiment, and determine optimum settings for the controllable parameters
5- Apply the principles of robust design to determine an optimum set of values for the controllable parameters of products and processes.
6- Design appropriate control charts and interpret the results
7- Design effective sampling plans for inspection/acceptance

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of advanced quality engineering techniques.	K1
1.2		
1.3		
1...		
2	**Skills :**	
2.1	Understand used statistical techniques in quality engineering.	S1
2.2	Understand capability of industrial processes.	S2
2.3	Understand propagation of error in linear and nonlinear environments.	S3
2.4	Understand and implement a factorial experiment and determine optimum settings for the controllable parameters.	S4
2.5	Understand and apply the principles of robust design to determine an optimum set of values for the controllable parameters of products and processes.	S4
2.6	Understand and design effective sampling plans	S5
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to quality engineering	2
2	Review of probability and statistics	6
3	Quality loss functions/process capability	6
4	Design of experiments/orthogonal arrays	6
5	Linear and nonlinear tolerance analysis	6
6	Parameter Design	4
7	Control Charts	4
8	Sampling plans	6
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	Develop the knowledge of advanced quality engineering techniques	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
1.2			
…			
2.0	**Skills**		
2.1	Understand used statistical techniques in quality engineering	• Lectures • Assignments • Quizzes • Term Project • Exams	• Tested by giving a midterm exam and two quizzes • Given homework assignments • Conducted project
2.2	Understand capability of industrial processes		
2.3	Understand propagation of error in linear and nonlinear environments		
2.4	Understand and implement a factorial experiment, and determine optimum settings for the controllable parameters		
2.5	Understand and apply the principles of robust design to determine an optimum set of values for the controllable parameters of products and processes		
2.6	Understand and design effective sampling plans		
2.7			
2.8			
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizzes	Continuous Assessment	10%
4	Project	11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Statistical aspects of quality control, by Cyrus Derman and Sheldon M. Ross, Academic Press 1997
Essential References Materials	Douglas C. Montgomery, Introduction to Statistical Quality Control, 8th, Wiley.
Electronic Materials	Lecture material in PPT
Other Learning Materials	• Excel. • Minitab. • R.

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Lecture room capacity: 30 seats
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

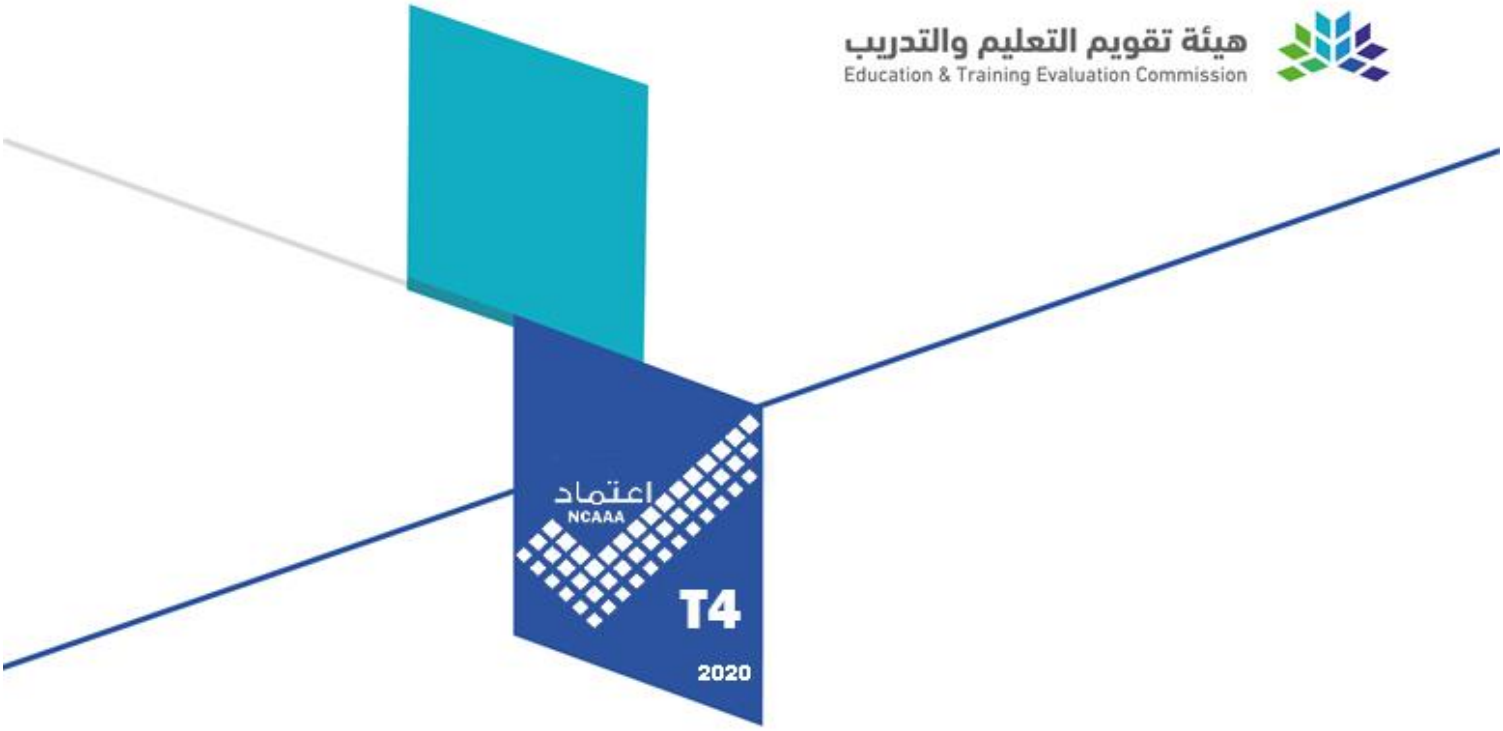
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Cognitive Systems Engineering**
Course Code:	**IE4605**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Human Factors Engineering**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

This course examines the principles, theories, and applications of the cognitive basis of system design. Topics include models of human and machine information processing, mental models, human error, human-centered design, abstraction hierarchy, ecological interface, cognitive task analysis, multi-flow models, activity-behavior models, and theories of complexity in human-machine systems.

2. Course Main Objective

By the completion of the course, students should be able to:

1- Understand cognitive basis of system design.
2- Recognize the enablers of Cognitive Systems Engineering.
3- Recognize cognitive task- and work domain- analysis in design and analysis of complex systems.
4- Design cognitive work systems.
5- Understand the use of cognition theories in the design of cognitive design of human-machine systems.
6- Develop various cognitive engineering models relevant for system design and analysis.
7- Apply cognitive engineering in human error analysis, cognitive workload, and diagnosis of fault sensitive systems.
8- Demonstrate the use of cognitive engineering in human-centered system design.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify cognitive basis of system design.	K2
1.2	Demonstrate the enablers of Cognitive Systems Engineering	K2
1.3	Comprehend the use of cognition theories in the design of cognitive design of human-machine systems	K2
1...		
2	**Skills:**	
2.1	Recognize cognitive task- and work domain- analysis in design and analysis of complex systems.	S1
2.2	Design cognitive work systems.	S3
2.3	Develop various cognitive engineering models relevant for system design and analysis	S3
2.4	Apply cognitive engineering in human error analysis, cognitive workload, and diagnosis of fault sensitive systems.	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Overview of cognitive psychology and cognitive sciences as the basis for cognitive system engineering	6
2	Enablers of CSE	8
3	Design of cognitive work systems	6
4	Cognition and cognitive design of human-machine systems	8
5	Joint cognitive systems	6
6	Advanced topics in CSE	6
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	Identify cognitive basis of system design.	• Lectures • Exam • Quiz • Homework	• Tested by giving them exams and quizzes • Given homework
1.2	Demonstrate the enablers of Cognitive Systems Engineering		
1.3	Comprehend the use of cognition theories in the design of cognitive design of human-machine systems		
2.0	**Skills**		
2.1	Recognize cognitive task- and work domain- analysis in design and analysis of complex systems.	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • assignments, • Exams and quizzes. • Project
2.2	Design cognitive work systems.		
2.3	Develop various cognitive engineering models relevant for system design and analysis		
2.4	Apply cognitive engineering in human error analysis, cognitive workload, and diagnosis of fault sensitive systems. .		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
	based on legal and ethical principles		
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th 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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	J. Rasmussen, A.M. Petersen, & L.P. Goodstein (1994). Cognitive Systems Engineering. New York: Wiley
Essential References Materials	Christopher D. Wickens, William S. Helton, Justin G. Hollands, Simon Banbury, Engineering Psychology and Human Performance, 5th Edition.
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Workshop
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show, Smart Board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

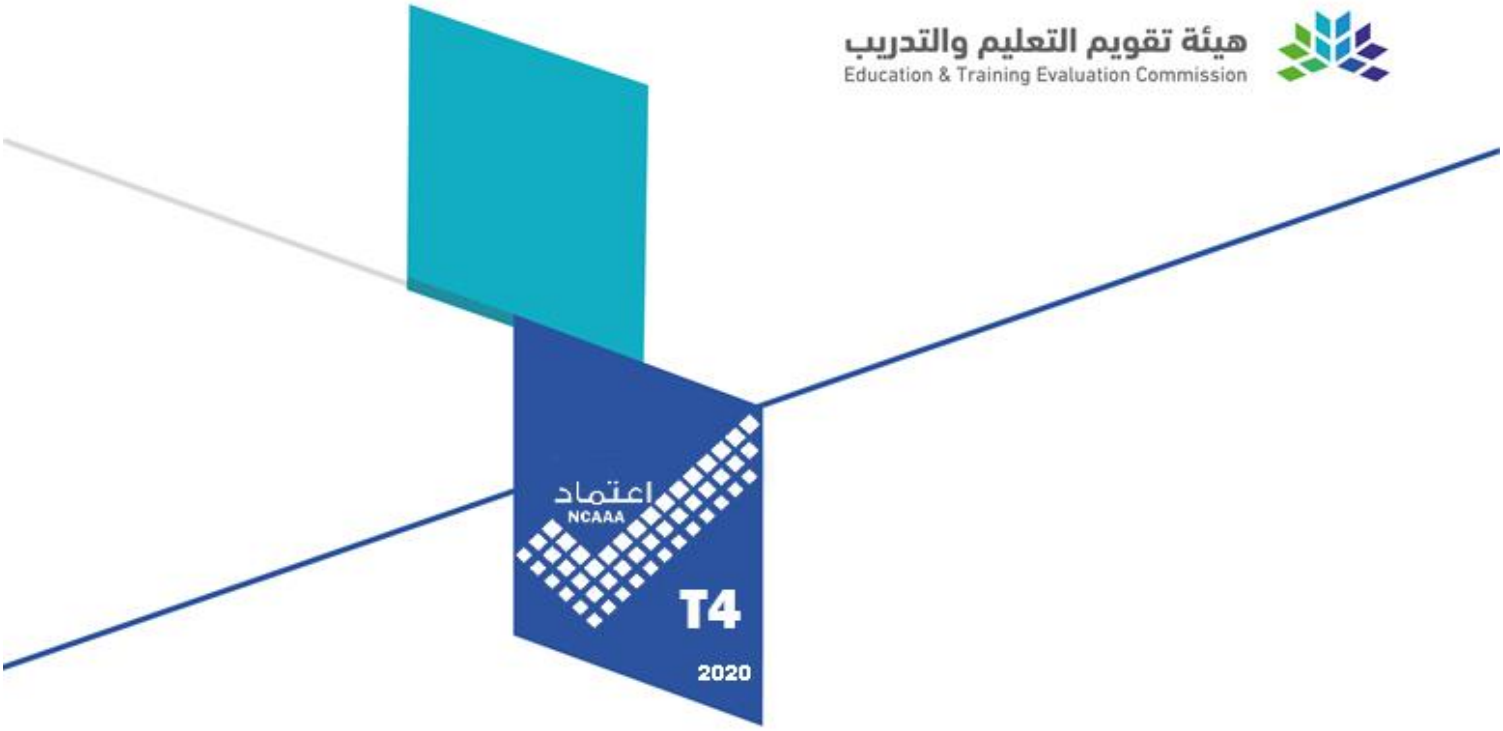
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Manufacturing Systems Modeling**
Course Code:	**IE4806**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Thirteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Facilities Planning and Design**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Design of a consumer product and its associated processes by engineering teams using the modern product realization process also known as integrated product and process design (IPPD). Each team is assigned a consumer product idea to work on. Each team proceeds the design process by understanding customers' needs, followed by concept generation, concept selection, architectural design, industrial design, preliminary design specifications, make-buy decisions, detailed design, process selection, experimental design, facilities design and business case analysis.

2. Course Main Objective

By the completion of the course, students should be able to:
1.1 Understand integrated product and process design with particular emphasis on product realization process and concurrent engineering.
1.2 Apply learned techniques through teamwork, design, project planning and management to obtain new products or processes.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of modeling manufacturing systems.	K2
1.2	Comprehend the different types of manufacturing modeling systems.	K2
1...		
2	**Skills:**	
2.1	Understand the basic principles and techniques of manufacturing systems	S1
2.2	Understand integrated product and process design with particular emphasis on product realization process and concurrent engineering	S2
2.3	Apply learned techniques through teamwork, design, project planning and management to obtain new products or processes	S4
3	**Values:**	
3...	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4

C. Course Content

No	List of Topics	Contact Hours
1	Overview of product realization process Conceptual design, customer focus, product specifications	4
2	HOQ, benchmarking	4
3	Concept selection	4
4	Product architecture and industrial design	4
5	Project plan development Project resource planning Component design specifications	4
6	Concurrent engineering Design for Manufacturing, Design for Assembly	4
7	Cost estimations, material selection, process selection, make/buy decisions	4
8	Quality, Reliability, Robust Design	4
9	Manufacturing economics, Capacity Planning, Facilities Layout	4
10	Preparing a system level design Report, Product development economics	4
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	Develop the knowledge of modeling manufacturing systems.	• Lectures • Homework • Assignments • Project • Exam & Quizzes	• Tested by giving them a quiz per chapter • Given homework assignments
1.2	Comprehend the different types of manufacturing modeling systems.		
…			
2.0	**Skills**		
2.1	Understand the basic principles and techniques of manufacturing systems	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the forming processes • Engage students in classroom interaction with making practice • Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific factory	• Homework • Assignments • Exams and quizzes • Visits some local factories for solving problems associated with measurement technology and preparation project for presentation • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades • Discussion in the classroom
2.2	Understand integrated product and process design with particular emphasis on product realization process and concurrent engineering		
2.3	Apply learned techniques through team-work, design, project planning and management to obtain new products or processes		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer
   - Tutoring
   - Factory Trip
   - Prototyping of products drawing on Solid software and how these products are manufactured in lab

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Manufacturing Systems: Theory and Practice (Mechanical Engineering Series) 2nd Edition by George Chryssolouris
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Manufacturing laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

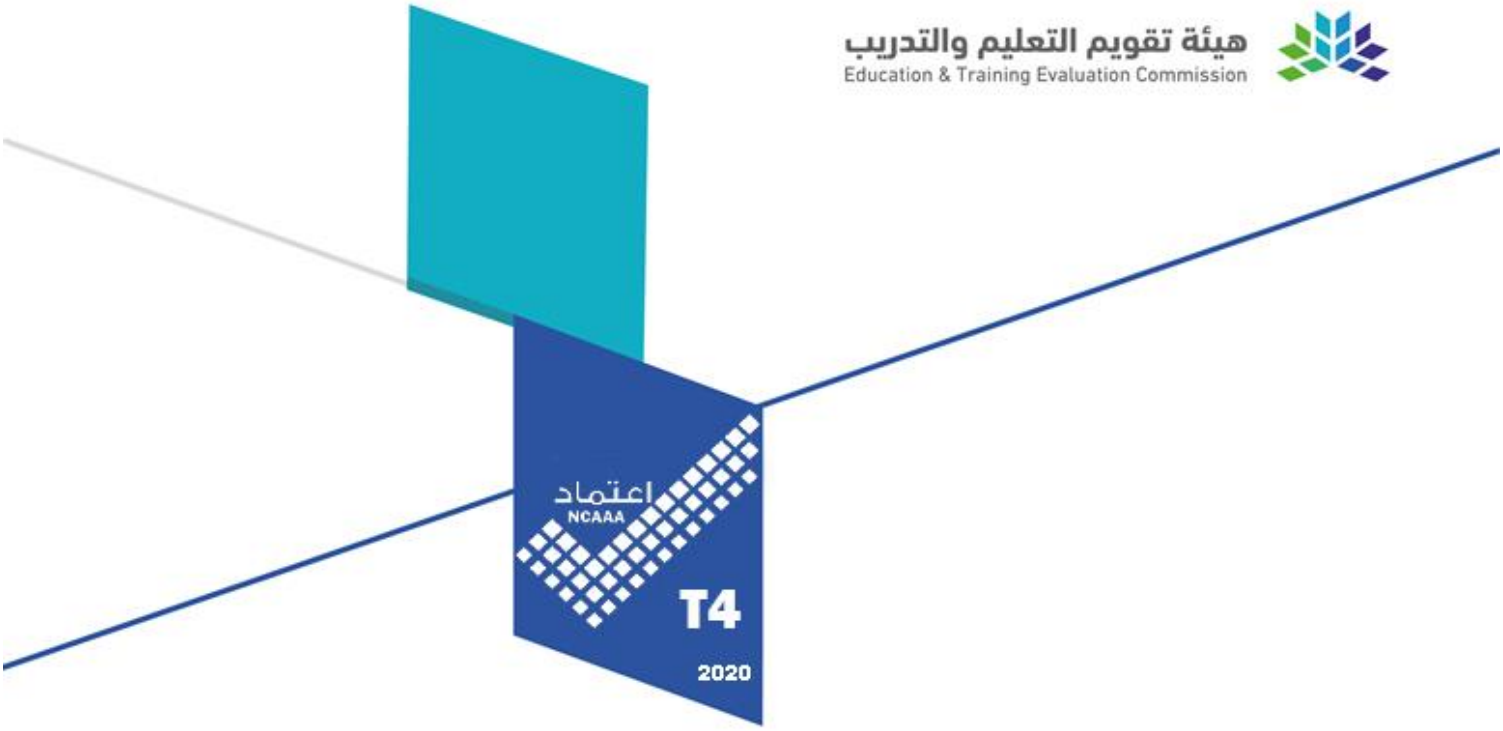
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Special Topics in Manufacturing**
Course Code:	**IE4804**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fifteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Computer Aided Design and Manufacturing (CAD/CAM)**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

This course is designed to explore selected topics in manufacturing as determined by the academic department and the instructor with emphasis on current manufacturing engineering systems trends.

2. Course Main Objective

By the completion of the course, students should be able to:
1.1 Recognize the need for, and an ability to engage in life-long learning engagement.
1.2 Use techniques, skills, and modern engineering tools necessary for engineering practice.
1.3 Identify, formulate, and solve engineering problems by traditional and conventional manufacturing tools.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of manufacturing contemporary issues.	K2
1.2	Comprehend the new trends of manufacturing processes.	K2
1.3		
1...		
2	**Skills:**	
2.1	Discover the trends in manufacturing engineering.	K1
2.2	Apply the basic principles and techniques of manufacturing processes	K2
2.3	Find the advanced approaches of manufacturing systems	K4
2.3		
2.4		
2.5		
2.6		
2.7		
2.8		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1		5
2		5
3		5
4		5
5		5
6		5
7		5
8		5
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	Develop the knowledge of manufacturing contemporary issues.	• Lectures • Homework • Assignments • Project • Exam & Quizzes	• Tested by giving them a quiz per chapter • Given homework assignments
1.2	Comprehend the new trends of manufacturing processes.		
…			
2.0	**Skills**		
2.1	Apply the basic principles and techniques of manufacturing processes	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the forming processes • Engage students in classroom interaction with making practice • Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific factory	• Homework • Assignments • Exams and quizzes • Visits some local factories for solving problems associated with measurement technology and preparation project for presentation • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades • Discussion in the classroom
2.2	Find the advanced approaches of manufacturing systems		
2.3	Discover the trends in manufacturing engineering.		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizes	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer
   - Tutoring
   - Factory Trip
   - Prototyping of products drawing on Solid software and how these products are manufactured in lab

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Groover, M.P. (2007). Fundamentals of Modern Manufacturing 3rd edition. New York NY: John Wiley & Sons.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Manufacturing laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

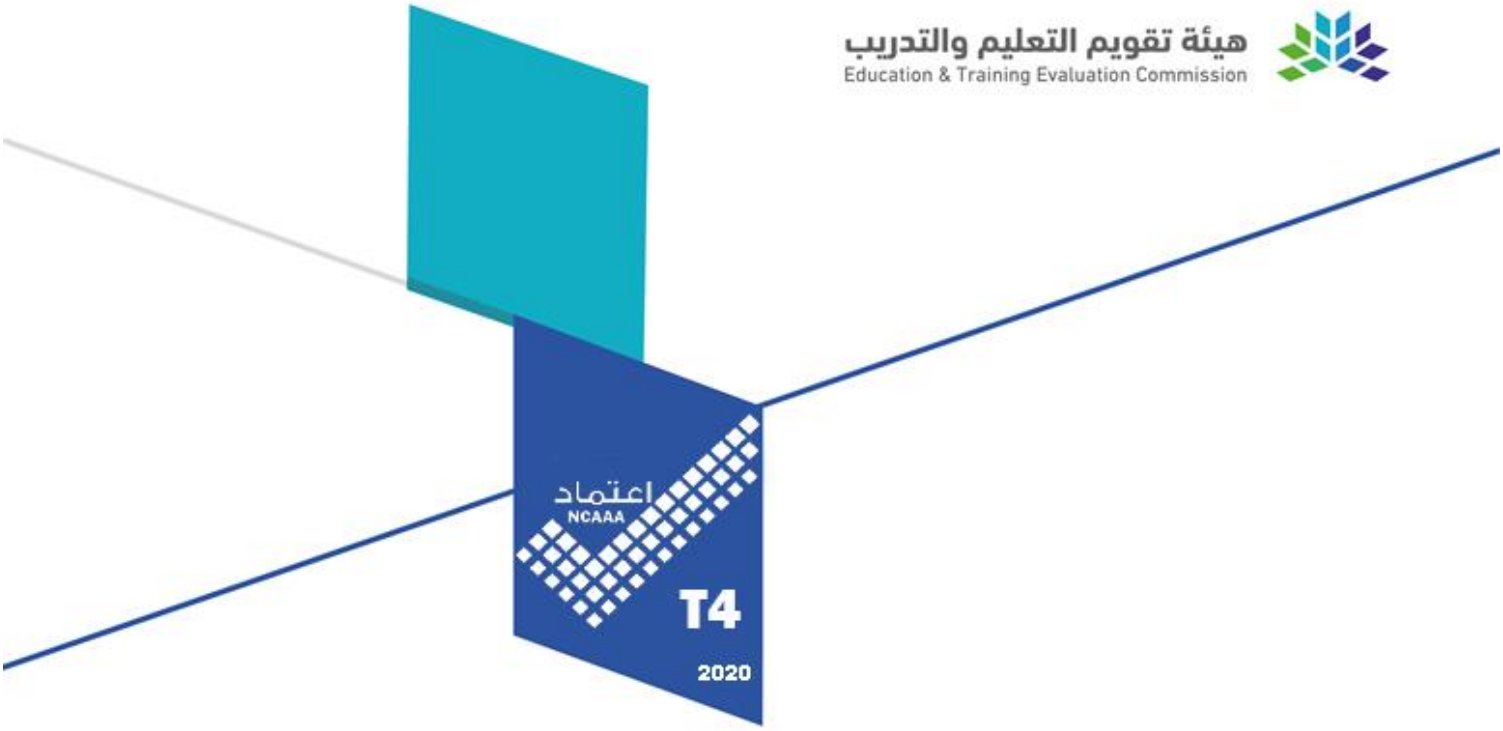
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Additive Manufacturing Technologies**
Course Code:	**IE4805**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fourteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Manufacturing Processes (2)**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

Additive manufacturing covers a spectrum of processes where a component can be fabricated directly from the computer aided design. This reduces the lead-time. It is expected to save energy, materials, and time. This course is designed to make students familiar with process both in theory and industrial practice. The expected outcome of the course is trained students who can innovate new processes, select the right process for the right component and provide basic scientific understanding of this emerging technology.

2. Course Main Objective

By the completion of the course, students should be able to:
1.1 Understand microstructure development through interaction of physical, chemical, thermal, and mechanical phenomena in the shaping of materials by additive processes.
1.2 Develop the ability to quantitatively analyze capabilities and limitations of additive manufacturing.
1.3 Critique and analyze additive manufacturing research literature.

3. Course Learning Outcomes

	CLOs	Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Develop the knowledge of additive manufacturing technologies.	K2
1.2	Comprehend the different types of additive manufacturing processes.	K2
1.3		
1...		
2	**Skills:**	
2.1	Understand basic principles and techniques of additive manufacturing.	S1
2.2	Understand the different types of additive manufacturing systems	S1
2.3	Explore materials science for additive manufacturing	S1
2.4	Analyze mathematical models for additive manufacturing	S3
2.5	Apply additive manufacturing in diverse industries	S4
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Process physics for additive manufacturing	6
2	Materials science for additive manufacturing	6
3	Mathematical models for additive manufacturing	8
4	Process monitoring and Control for additive manufacturing	6
5	Application of additive manufacturing in various industries	6
6	Additive manufacturing systems	8
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	Develop the knowledge of additive manufacturing technologies	• Lectures • Homework • Assignments • Project • Exam & Quizzes • Lab Sessions	• Tested by giving them a quiz per chapter • Given homework assignments
1.2	Comprehend the different types of additive manufacturing processes		
…			
2.0	**Skills**		
2.1	Understand basic principles and techniques of additive manufacturing.	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the forming processes • Engage students in classroom interaction with making practice • Assignment is given to the students at regular intervals for them to solve and submit. • Participation of students in classroom discussion • An assignment is given to the students to perform it in cooperation with a specific factory	• Homework • Assignments • Exams and quizzes • Project • Visits some local factories for solving problems associated with measurement technology and preparation project for presentation • Class attendance of students at the beginning of the lecture is recorded. • Recording of submission of assignment and the grades • Discussion in the classroom
2.2	Understand the different types of additive manufacturing systems		
2.3	Explore materials science for additive manufacturing		
2.4	Analyze mathematical models for additive manufacturing		
2.5	Apply additive manufacturing in diverse industries		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quizes	Continuous Assessment	10%
4	Project	During 11th Week	15%
5	Final Exam	During 12th Week	40%
6			
7			
8			

***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. 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):
   - Weekly office hours
   - Meetings and discussions on blackboard and by the computer
   - Tutoring
   - Factory Trip
   - Prototyping of products drawing on Solid software and how these products are manufactured in lab

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Gebhardt, A. and Hotter, J. (2016). Additive Manufacturing 3D Printing for Prototyping and Manufacturing.
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Manufacturing laboratory available
Technology Resources (AV, data show, Smart Board, software, etc.)	• Available
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

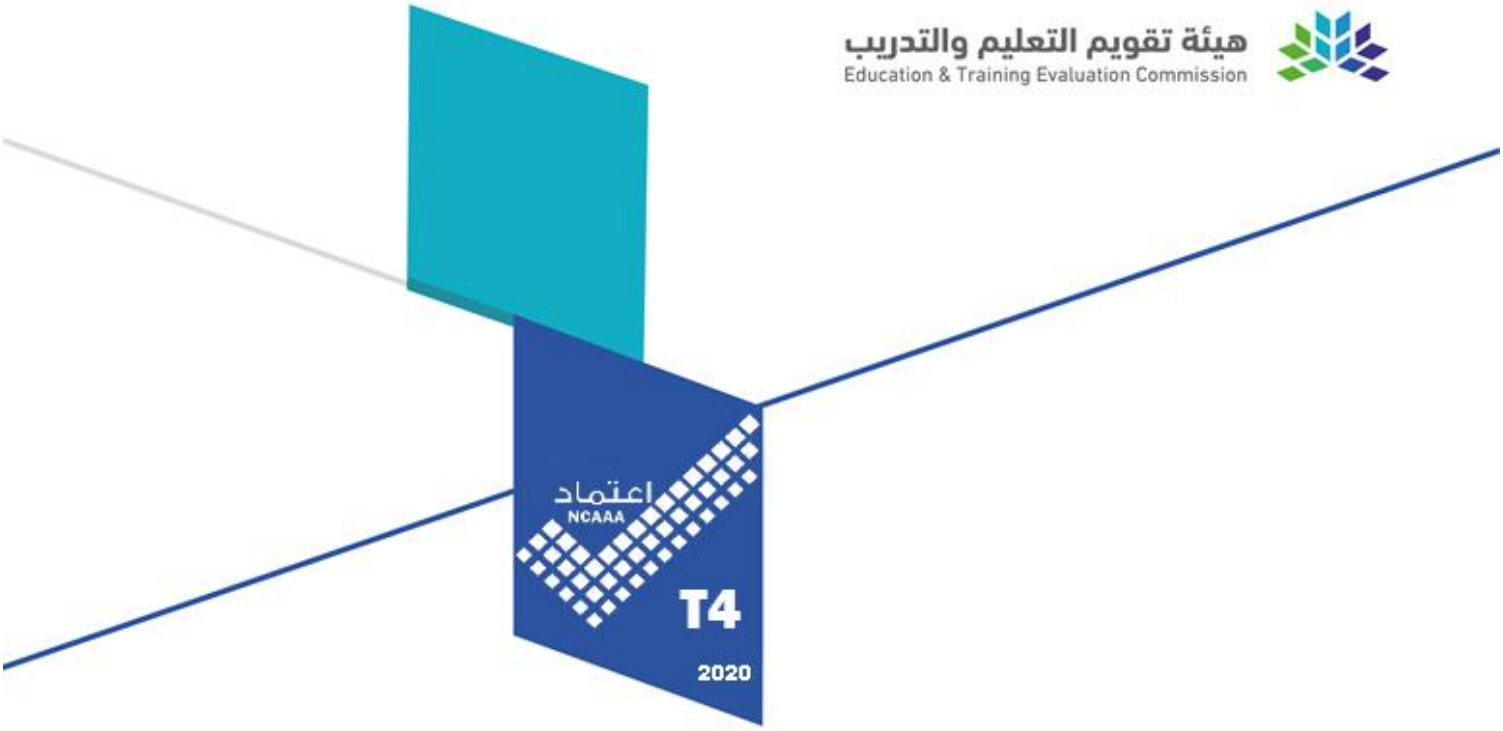
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	Students	Survey
Instructor Teaching	Faculty peers	Assessment
Processes for Improvement of Teaching	Courses development committee	Deming cycle
Verifying Standards of Student Achievement	Undergraduate Committee, Department	• Review deficiencies based on the student evaluation, course file, and program assessment. • Department instructors
Review courses effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Ergonomics Design**
Course Code:	**IE4604**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Thirteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Human Factors Engineering**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

An advanced ergonomics design course equips students with the necessary knowledge essential for the physiological, psychological and anthropometrical development leading to a fit design.

2. Course Main Objective

By the completion of the course, students should be able to:

1- Accurately recognize and evaluate hazards (ergonomic in nature) which are likely to cause occupational illnesses or injuries.
2- Design and redesign tasks and workstations to fit employee.
3- Apply the obtained knowledge, skills, and abilities into an industrial based problem

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify unsafe conditions in ergonomics design.	K1
1.2	Demonstrate ergonomics principles in designing workstations.	K1
1.3	Comprehend the importance of ergonomic design from anthropometrical, physiological, and psychological aspects.	K2
1...		
2	**Skills:**	
2.1	Analyze control measures for good ergonomic design.	S2
2.2	Design workstations following ergonomics approaches	S3
2.3	Use ergonomics techniques and tools of for safe workplace	S4
2.4		
2.5		
2.6		
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction	1
2	Musculoskeletal, cardiovascular, and nervous system	8
3	Anatomical position, reference planes and movements	7
4	Anthropometry	4
5	Workstation design	4
6	Guidelines for seated work	4
7	Hand tools	4
8	Design of cognitive work	4
9	Usability	4
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	Identify unsafe conditions in ergonomics design.	• Lectures • Exam • Quiz • Homework	• Tested by giving them exams and quizzes • Given homework
1.2	Demonstrate ergonomics principles in designing workstations.		
1.3	Comprehend the importance of ergonomic design from anthropometrical, physiological, and psychological aspects		
2.0	**Skills**		
2.1	Analyze control measures for good ergonomic design.	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • assignments, • Exams and quizzes. • Project
2.2	Design workstations following ergonomics approaches		
2.3	Use ergonomics techniques and tools of for safe workplace		
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	15%
4	Final Exam	During 12th Week	40%
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Soares, M. and Robelo F. (2017) Ergonomics in Design Methods and Techniques. 1st edition
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Workshop
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show, Smart Board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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:	**Systems Safety Engineering**
Course Code:	**IE4606**
Program:	**Bachelor of Science in Industrial Engineering**
Department:	**Industrial Engineering**
College:	**College of Engineering in Al-Qunfudhah**
Institution:	**Umm Al-Qura University**

Table of Contents

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: Fourteenth Semester / Fifth Year
4. Pre-requisites for this course (if any)**: Industrial Safety Engineering**
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**	40	100%
2	**Blended**		
3	**E-learning**		
4	**Distance learning**		
5	**Other**		

7. Contact Hours (based on academic semester)

No	Activity	Contact Hours
1	**Lecture**	40
2	**Laboratory/Studio**	
3	**Tutorial**	
4	**Others** (specify)	
	Total	40

B. Course Objectives and Learning Outcomes

1. Course Description

This course provides an introduction to identifying and recognizing potential safety hazards as well as the concept of risk assessment. Preliminary Hazard Analysis, System and Subsystem Hazard Analysis, Failure Modes and Effects Analysis, Fault Tree Analysis, Probabilistic Risk Assessment, and other systems safety methodologies will be explored together with applications to hazard analysis and control.

2. Course Main Objective

By the completion of the course, students should be able to:

1- Understand the systems safety engineering process, as applied to the design of complex systems.
2- Develop knowledge of safety management principles and the elements of an effective systems safety program.
3- Understand risk reduction strategies and the hazard reduction sequence.
4- Develop knowledge of a variety of hazard identification and assessment methods and techniques.

3. Course Learning Outcomes

CLOs		Aligned PLOs
1	**Knowledge and Understanding**	
1.1	Identify unsafe conditions by applying systems safety engineering processes.	K1
1.2	Demonstrate systems safety engineering principles in designing industrial facilities	K2
1.3	Comprehend safety management principles and risks reduction strategies	K2
1...		
2	**Skills:**	
2.1	Analyze, measure, and control potential hazards	S1
2.2	Analyze the design of safety engineering system for workplaces.	S1
2.3	Use risk reduction strategies to evaluate hazardous situations.	S3
2.4	Use systems safety engineering techniques and tools.	S3
3	**Values:**	
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	V2
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	V4
3.3		
3...		

C. Course Content

No	List of Topics	Contact Hours
1	Introduction to systems safety process	2
2	Hazard reduction precedence	4
3	Safety management and safety standards	4
4	Hazard analyses	4
5	Preliminary hazard list	2
6	Preliminary hazard analysis	2
7	Subsystem and system hazard analysis	4
8	Failure modes and effects analysis	4
9	Functional resonance analysis method	4
10	Fault tree analysis	4
11	Probabilistic risk assessment	4
12	Accident investigation	2
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	Identify unsafe conditions by applying systems safety engineering processes.	• Lectures • Exam • Quiz • Homework	• Tested by giving them exams and quizzes • Given homework
1.2	Demonstrate systems safety engineering principles in designing industrial facilities.		
1.3	Comprehend safety management principles and risks reduction strategies		
2.0	**Skills**		
2.1	Analyze, measure, and control potential hazards	• Lectures are followed by numerous examples for manufacturing facility • Tutorials are used to explain further the workshop machines • Engage students in classroom interaction with making practice	• Homework • assignments, • Exams and quizzes. • Project
2.2	Analyze the design of safety engineering system for workplaces.		
2.3	Analyze the safety requirements for workers with disabilities.		
2.4	Use systems safety engineering techniques and tools		

Code	Course Learning Outcomes	Teaching Strategies	Assessment Methods
3.0	**Values**		
3.1	Comprehend effectively as a member or a leader of a team engaged in activities appropriate to the program's discipline	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
3.2	Recognize professional responsibilities and make informed judgements in engineering practice based on legal and ethical principles	Interactive learning Self-directed learning	Assignments, Quiz, Midterm, Project, Final
…			

2. Assessment Tasks for Students

#	Assessment task*	Week Due	Percentage of Total Assessment Score
1	Midterm Exam	During 5th-7th Weeks	25%
2	Homework Assignments	Continuous Assessment	10%
3	Quiz	Continuous Assessment	10%
4	Project	During 11th Week	15%
4	Final Exam	During 12th Week	40%
8			

***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:

- Weekly office hours
- Meetings and discussions on Blackboard

F. Learning Resources and Facilities

1.Learning Resources

Required Textbooks	Ericson, C. A. (2016). Hazard Analysis Techniques for System Safety (2nd ed.).Wiley
Essential References Materials	NA
Electronic Materials	Lecture material in PPT
Other Learning Materials	

2. Facilities Required

Item	Resources
Accommodation (Classrooms, laboratories, demonstration rooms/labs, etc.)	• Classroom • Workshop
Technology Resources (AV, data show, Smart Board, software, etc.)	• Data show, Smart Board
Other Resources (Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list)	• NA

G. Course Quality Evaluation

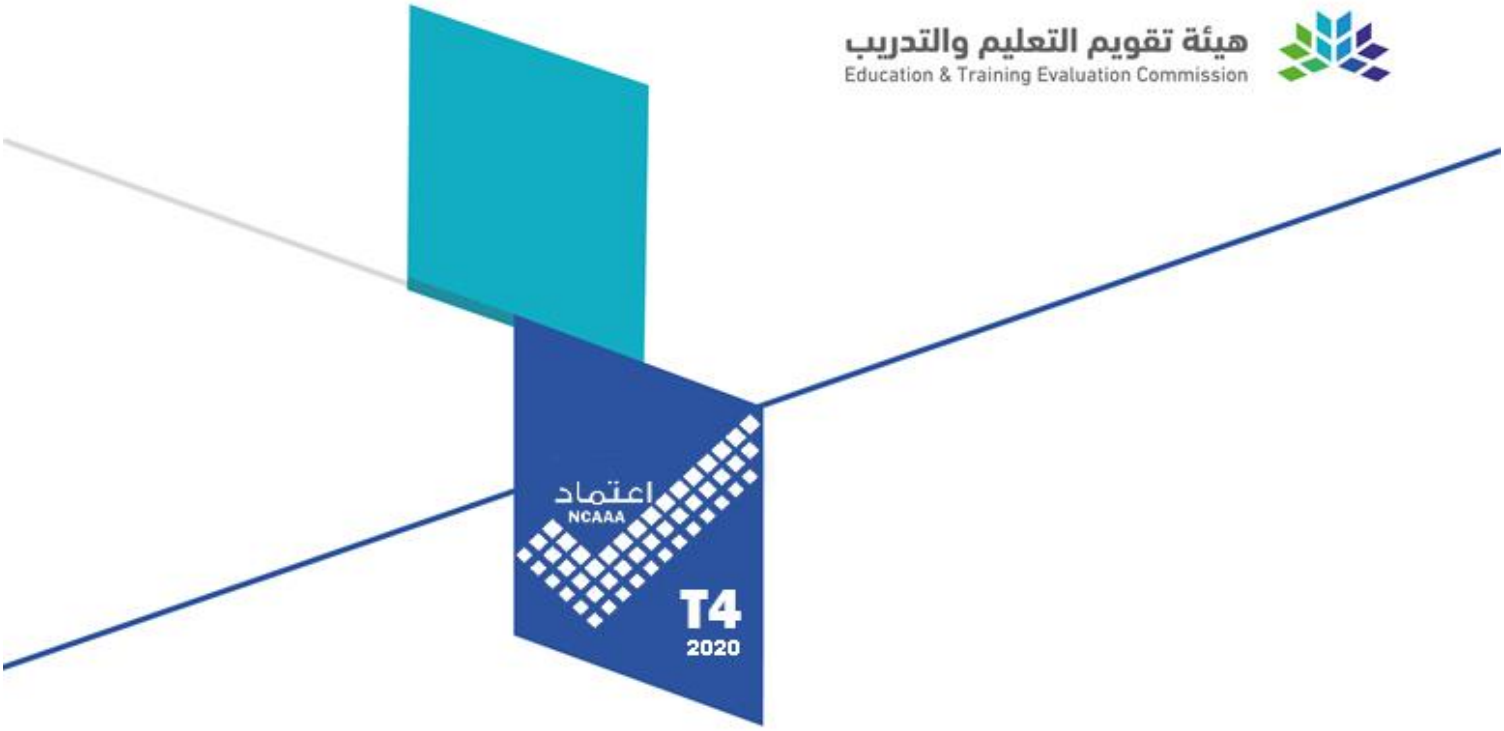
Evaluation Areas/Issues	Evaluators	Evaluation Methods
Effectiveness of Teaching	students	Survey
Instructor Teaching	faculty peers	Peer to Peer Assessment
Improvement of Teaching	Courses Development Committee	Demin Cycle
Verifying Standards of Student Achievement	Undergraduate Committee, department committee	• review deficiencies based on the student evaluation, course file, and program assessment. • Department Instructor
review course effectiveness and planning for improvement.	course report committee, department committee	Periodic Assessment

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



توصيف المقرر الدراسي

اسم المقرر:	التغذية والصحة Nutrition and Health
رمز المقرر:	NUT1101
البرنامج:	
القسم العلمي:	التغذية الاكلينيكية
الكلية:	العلوم الطبية التطبيقية
المؤسسة:	جامعة أم القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: 2 ساعة معتمدة

2. نوع المقرر

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

ب. إجباري [ ] اختياري [√]

3. السنة / المستوى الذي يقدم فيه المقرر:
أحد المتطلبات المؤسسية الاختيارية (متطلب جامعي)

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**	8	%40
4	**التعليم عن بعد**	8	%40
5	**أخرى** (مجموعات عمل)	4	%20
	الاجمالي	20	%100

7. **ساعات الاتصال** (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	2 ساعة
2	معمل أو إستوديو	-
3	دروس إضافية	-
4	أخرى (تذكر) **أنشطة ومهام تقدم من الطلبة**	-
	الإجمالي	2 ساعة أسبوعيا

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

لمقرر التغذية والصحة دورا كبيرا في تنمية المعارف والمهارات الخاصة بأساسيات التغذية السليمة في الصحة والمرض وذلك من خلال التعرف على المفاهيم الأساسية في التغذية والعناصر الغذائية وتمثيلها الغذائي وعلاقة ذلك بالصحة والمرض لدى الانسان وكذلك ماهية الغذاء المتوازن وتخطيط الوجبات والحميات الغذائية وعلاقة ذلك بالأمراض والنشاط البدني وسلامة الغذاء، حيث يساعد كل ذلك في تحسين الحالة الغذائية الصحية على مستوى الفرد والأسرة والمجتمع.

2. الهدف الرئيس للمقرر

يهدف مقرر التغذية والصحة الى:

1. تنمية المعارف الخاصة بمكونات الغذاء الصحي والاحتياجات اليومية للوقاية من الامراض المختلفة
2. تنمية المهارات المتعلقة باختيار الغذاء الصحي والمشكلات الصحية الناتجة عن سوء التغذية
3. اكساب الطلبة المهارات الأساسية لتخطيط الوجبات والحميات الغذائية في الصحة والمرض وخلال النشاط البدني
4. المساعدة في تطوير الصحة العامة من خلال تطبيق السلامة الغذائية وتصحيح المفاهيم الغذائية الخاطئة
5. تدريب الطلبة على تصميم برنامج غذائي صحي

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	وصف المفاهيم الأساسية في التغذية والعناصر الغذائية وتمثيلها الغذائي وعلاقة ذلك بالصحة والمرض لدى الانسان	
1.2	معرفة الخطوط العريضة لآليات اختيار الغذاء المتوازن الصحي وتخطيط الوجبات والحميات الغذائية وعلاقة ذلك بالأمراض والنشاط البدني وسلامة الغذاء	
2	**المهارات**	
2.1	تطبيق التوازن الأمثل للطاقة بالجسم والاحتياجات الغذائية	
2.2	بناء مهارات اختيار الغذاء المتوازن الصحي وتخطيط الوجبات والحميات الغذائية	
2.3	استيفاء متطلبات التغذية في الصحة والمرض وأثناء ممارسة النشاط البدني وتطبيق سلامة الغذاء	
3	**القيم**	
3.1	بناء المعايير الأخلاقية والكفاءة والنزاهة واحترام الآخرين والعمل الجماعي	
3.2	الالتزام بتعاليم ديننا الإسلامي والسلوك الحضاري والتفكير الإبداعي الابتكاري والأداء الجيد	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	مفاهيم ومصطلحات في مجال التغذية وأهميتها	2
2	العناصر الغذائية الكبرى والصغرى والماء (مصادرها والاحتياج الغذائي RDI &RDA)	2
3	الأيض الغذائي للعناصر الغذائية وتوازن الطاقة	2
4	تخطيط الوجبات (حساب السعرات الحرارية، المجموعات والبدائل الغذائية)	2
5	اعداد الانظمة الغذائية المختلفة	2
6	الغذاء المتوازن وموضة الأنظمة والحميات الغذائية (Atkins Diet، Vegan Diet، Ketogenic Diet، Macrobiotic Diet)	2
7	التغذية في الصحة والمرض	2
8	التغذية والنشاط البدني	2
9	البطاقة الغذائية وسلامة وأمن الغذاء	2
10	قضايا واتجاهات حديثة في الغذاء والتغذية وتصحيح المفاهيم الغذائية الخاطئة	2
	المجموع	20

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	وصف المفاهيم الأساسية في التغذية والعناصر الغذائية وتمثيلها الغذائي وعلاقة ذلك بالصحة والمرض لدى الانسان	المحاضرات العمل في مجموعات	الاختبارات التحريرية بطاقات الملاحظة
1.2	معرفة الخطوط العريضة لآليات اختيار الغذاء المتوازن الصحي وتخطيط الوجبات والحميات الغذائية وعلاقة ذلك بالأمراض والنشاط البدني وسلامة الغذاء	الواجبات المنزلية الفردية والجماعية المناقشة والحوار	تقويم الواجبات المنزلية تقويم المشاركة في الحوار
2.0	**المهارات**		
2.1	تطبيق التوازن الأمثل للطاقة بالجسم والاحتياجات الغذائية	الخرائط الذهنية	التمارين الشفهية والتحريرية
2.2	بناء مهارات اختيار الغذاء المتوازن الصحي وتخطيط الوجبات والحميات الغذائية	النمذجة والتمارين	بطاقات الملاحظة

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
2.3	استيفاء متطلبات التغذية في الصحة والمرض وأثناء ممارسة النشاط البدني وتطبيق سلامة الغذاء	حل المشكلات	الاختبارات التحريرية
3.0	**القيم**		
3.1	بناء المعايير الأخلاقية والكفاءة والنزاهة واحترام الآخرين والعمل الجماعي	التكليفات الجماعية الحوار والمناقشة	تقويم الاعمال الجماعية دوريا
3.2	الالتزام بتعاليم ديننا الإسلامي والسلوك الحضاري والتفكير الإبداعي الابتكاري والأداء الجيد	التكليفات الفردية	تقويم الاعمال الفردية دوريا

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	المشاركة الفعالة في الأنشطة الصفية للمقرر	كل الاسابيع	5
2	المشاركة الفعالة في الأنشطة اللاصفية للمقرر	كل الاسابيع	5
3	العروض التقديمية	كل الاسابيع	10
4	مشروعات وتكليفات جماعية	9 و10	20
5	أوراق عمل فردية	9 و10	10
6	الاختبار التحريري	11 أو 12	50
	المجموع		100

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

1- تواجد منسقي المقرر أسبوعياً في "ساعات مكتبية" في اوقات محددة ومعلنة للطلبة
2- التواصل المستمر مع الطلبة عن بُعد طيلة أيام الأسبوع، والرد المستمر على استفساراتهم
3- تقديم الدعم المستمر وتقديم المساندة المعنوية لهم
4- التواصل يكون عبر البريد الإلكتروني، ووسائل التواصل الإلكترونية الأخرى
5- متابعة أداء الطلبة وتسليم واجباتهم وعرض المحاضرات وملخص المقرر في ملف المقرر على البلاك بورد وعلى موقع جامعة أم القرى
6- استخدام الوسائل والبرنامج المحادثة والغرفة الصوتية للتواصل الفوري على البلاك بورد او الويبكس
7- تطبيق عملي ومتابعة تنفيذ للواجبات الفصلية والأنشطة وتنفيذ عدد من البرامج التدريبية الموجهة للطلبة في ضوء احتياجاتهم الفعلية.
8- توفير الدعم والاستشارات أولا من منسق المقرر للطلاب المتعثرين وأصحاب الهمم والطلاب المتميزين وتوجيههم الى وحدة الإرشاد الأكاديمي بعمادة الجامعة للإرشاد والدعم النفسي والأكاديمي

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	مبادئ تغذية الانسان والتمثيل الغذائي -طبعة ثانية-د فهد عبد الحميد الشربجي- دار عدن للنشر والطباعه-2011و رقم إيداع: 20\14\9\2011
المراجع المساندة	روشتات غذائية- د جودة محمد عواد-دار صرح للنشر-القاهرة -مصر 2013-طبعة أولى- رقم إيداع: 2789\2013 الغذاء والتغذية- طبعه ثانية-د عزت امين ود فاروق شاهين واخرون- اشراف المكتب الإقليمي لمنظمة الصحة العلمية للشرق الأوسط- دار نشر أكاديميا إنترناشيونال-بيروت-لبنان- رقم دولي(8-0082-3-9953) تغذية الرياضيين-طبعه أولى-دكتور عبدالرحمن المصيقر-الموسسة العربية للطباعه-البحرين-1989-رقم الإيداع: 1989\د.ع. 798
المصادر الإلكترونية	https://www.moh.gov.sa/Pages/Default.aspx وزارة الصحة السعودية دليل السعرات الحرارية لخفض الوزن= الغذاء والتغذية - دليل السعرات الحرارية لخفض الوزن (moh.gov.sa) فيديو من وزارة الصحة وزارة الصحة التغذيةBing video - الهيئة العامة للغذاء والدواء(sfda.gov.sa) الهيئة العامة للغذاء والدواء - قطاع الغذاء(sfda.gov.sa) الموقع الرسمي لمنظمة الصحة العالمية(who.int) عربي

	المجلات العلمية الخاصة بالتغذية - التغذية الإكلينيكية - كلية العلوم الطبية التطبيقية | جامعة أم القرى (uqu.edu.sa) Arab Center for Nutrition | المركز العربي للتغذية Arab Center for Nutrition | المركز العربي للتغذية (acnut.com)
أخرى	لا يوجد

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	التدريس اونلاين ويتطلب: 1- برنامج بلاك بورد 2- برنامج ويبكس 3- شبكة انترنت مجانية وقوية للطلاب
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	غير مطلوب
تجهيزات أخرى (تبعاً لطبيعة التخصص)	برنامج قياس الاحتياجات الغذائية وتخطيط الوجبات (Food Processor software)

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
تقييم الاقران	أعضاء هيئة التدريس .	إعداد لجان التنسيق للتدقيق والمتابعة للامتحانات والمراجعة الدورية.
عمل استبانة مرحلية لتقييم عملية التدريس - .التقويم الذاتي المستمر.	الطلبة - .أعضاء هيئة التدريس - .قيادات برنامج.	استبيانات تقييم المقرر
المراجعة الدورية الداخلية للمقرر (لجنة الخطط الدراسية والجداول) متابعة لجنة الإعداد العام لعضو هيئة التدريس وتقويم الأداء في تقديمه المقرر وفعالية الأدوات المستخدمة لتقديمه وعمل التقارير اللازمة .	لجنة تطوير المناهج -الطلبة-لجنة الجودة	استبيانات الطلاب-تحليل نتائج الاختبارات الفصلية والنهائية تقرير المقرر وأداء مخرجات التعلم

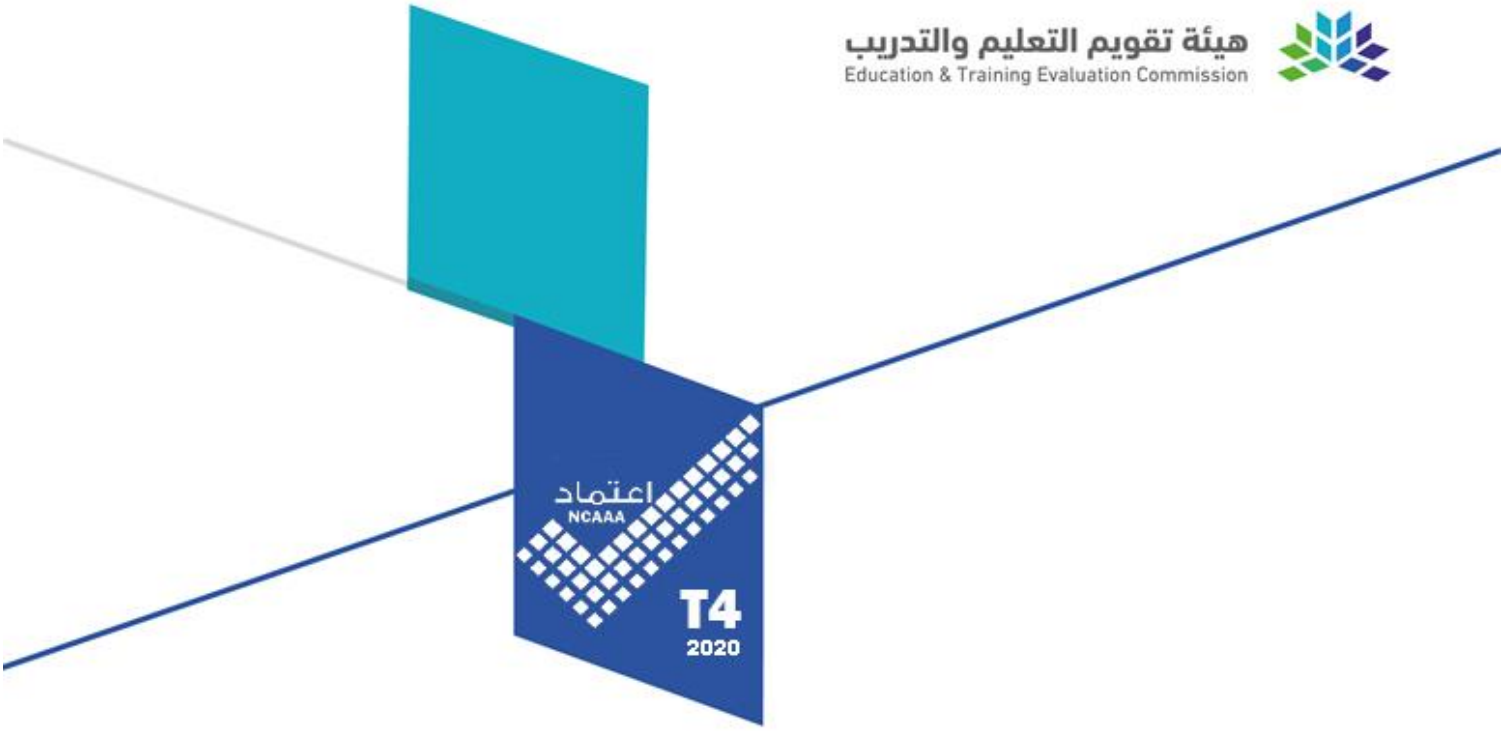
مجالات التقويم (مثل. فاعلية التدريس، فاعلة طرق تقييم الطلاب، مدى تحصيل مخرجات التعلم للمقرر، مصادر التعلم ... إلخ)
المقيمون (الطلبة، أعضاء هيئة التدريس، قيادات البرنامج، المراجع النظير، أخرى (يتم تحديدها)
طرق التقييم (مباشر وغير مباشر)

ح. اعتماد التوصيف

خبير المقرر	د/ عبير محمد الجعدي
التوقيع	

جهة الاعتماد	لجنة تطوير المناهج وسير العملية التعليمية بقسم التغذية الاكلينيكية
رقم الجلسة	الجلسة الحادية عشرة
تاريخ الجلسة	1443/9/23هـ؛ الموافق 2022/4/24م

منسق البرنامج	د/ وداد فؤاد أزهر
التوقيع	



توصيف المقرر الدراسي

اسم المقرر:	مقدمة في الذكاء الاصطناعي
رمز المقرر:	AI 2001
البرنامج:	
القسم العلمي:	**علوم الحاسب الآلي**
الكلية:	**الحاسب الآلي ونظم المعلومات**
المؤسسة:	**جامعة ام القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة: ٢
٢. نوع المقرر أ. متطلب جامعة ✓ متطلب كلية ☐ متطلب قسم ☐ أخرى ☐ ب. إجباري ☐ اختياري ✓
٣. المتطلبات السابقة لهذا المقرر التقنية الرقمية (متطلب جامعة)
٤. المتطلبات المتزامنة مع هذا المقرر (إن وجدت) لا يوجد

٥. نمط الدراسة (اختر كل ما ينطبق)

م	نمط الدراسة	عدد الساعات التدريسية	النسبة
1	**المحاضرات التقليدية**		
2	**التعليم المدمج**		
3	**التعليم الإلكتروني**	✓	١٠٠٪
4	**التعليم عن بعد**	✓	١٠٠٪
5	**أخرى**		

٦. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات	٢٠ ساعة
٢	معمل أو إستوديو	
٣	دروس إضافية	
٤	أخرى (تذكر)	
	الإجمالي	٢٠ ساعة

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر:

هذا المقرر يقدم للطالب الثقافة المعرفية اللازمة في مجال الذكاء الاصطناعي من خلال التعرف على المفاهيم الأساسية للذكاء الاصطناعي. وكيفية بناء تطبيقات الذكاء الاصطناعي التي تقدم حلول تخدم المجتمع. بإضافة إلى توضيح استخدامات الذكاء الاصطناعي في مجالات متعددة مثل (خدمة ضيوف الرحمن، التعليم، صحة، تجارة، صناعة ..... وغيرها).

٢. الهدف الرئيس للمقرر

يهدف هذا المقرر إلى تطوير معرفة المتعلم في مجال الذكاء الاصطناعي وكيفية فهم وتطبيق المبادئ الاساسية للذكاء الاصطناعي لتطوير حلول تخدم مجالات تخصص الطلبة وتعريف الطالب بالاستراتيجية الوطنية للمملكة في البيانات والذكاء الاصطناعي.

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	القدرة على شرح المفاهيم الأساسية للذكاء الاصطناعي	

مخرجات التعلم للمقرر		رمز مخرج التعلم المرتبط للبرنامج
١,٢	القدرة علي التعرف علي تطبيقات الذكاء الاصطناعي	
١,٣	القدرة على ربط تطبيقات الذكاء الاصطناعي بتحديات الحياة اليومية	
٢	**المهارات**	
٢,١	اكتساب القدرة على التمييز بين الأدوات المستخدمة لبناء تطبيقات الذكاء الاصطناعي	
٣	**القيم**	
٣,١	تقدير فوائد الذكاء الاصطناعي في تسهيل الأمور الحياتية	
٣,٢	تقدير الجوانب الأخلاقية لاستخدام الذكاء الاصطناعي	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
١	التعريف بمعنى الذكاء الاصطناعي والتطرق لنشأة وتطور الذكاء الاصطناعي	٢
٢	استراتيجية المملكة الوطنية للبيانات والذكاء الاصطناعي	٢
٣	مفاهيم الذكاء الاصطناعي والتفريق بين تعلم الآلة والتعليم العميق	٢
4	كيفية عمل التقنيات المستخدمة في تطبيقات الذكاء الاصطناعي	٢
5	أدوات تطوير تطبيقات الذكاء الاصطناعي	٤
6	تطبيقات الذكاء الاصطناعي في القطاعات المختلفة (التعليم، صحة، تجارة، صناعة .....و غيرها)	٤
7	تأثير الذكاء الاصطناعي في الحياة اليومية	٢
8	الجوانب الأخلاقية لاستخدام الذكاء الاصطناعي	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
١,٠	**المعرفة والفهم**		
١,١	القدرة على شرح المفاهيم الأساسية للذكاء الاصطناعي	محاضرات، قراءات وتعلم ذاتي، التدريبات والانشطة أثناء الدرس وخارجه، المواقع والأدوات المتوفرة عبر شبكة الانترنت	الاختبارات الإلكترونية والواجبات عبر منصة التعليم الالكترونية
١,٢	القدرة على التعرف على تطبيقات الذكاء الاصطناعي	محاضرات، قراءات وتعلم ذاتي، التدريبات والانشطة أثناء الدرس وخارجه، المواقع والأدوات المتوفرة عبر شبكة الانترنت	الاختبارات الإلكترونية والواجبات عبر منصة التعليم الالكترونية
١,٣	القدرة على ربط تطبيقات الذكاء الاصطناعي بتحديات الحياة اليومية	محاضرات، قراءات وتعلم ذاتي، التدريبات والانشطة أثناء الدرس و خارجه، المواقع والأدوات المتوفرة عبر شبكة الانترنت	الاختبارات الإلكترونية والواجبات عبر منصة التعليم الالكترونية
٢,٠	**المهارات**		
٢,١	اكتساب القدرة على التمييز بين الأدوات المستخدمة لبناء تطبيقات الذكاء الاصطناعي	محاضرات، قراءات وتعلم ذاتي، التدريبات والانشطة أثناء الدرس و خارجه، المواقع والأدوات المتوفرة عبر شبكة الانترنت	الاختبارات الإلكترونية والواجبات عبر منصة التعليم الالكترونية

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
٣,٠	**القيم**		
٣,١	تقدير فوائد الذكاء الاصطناعي في تسهيل الأمور الحياتية	محاضرات، قراءات وتعلم ذاتي، التدريبات والانشطة أثناء الدرس وخارجه، المواقع والأدوات المتوفرة عبر شبكة الانترنت	الاختبارات الإلكترونية والواجبات عبر منصة التعليم الالكترونية
٣,٢	تقدير الجوانب الأخلاقية لاستخدام الذكاء الاصطناعي	محاضرات، قراءات وتعلم ذاتي، التدريبات والانشطة أثناء الدرس وخارجه، المواقع والأدوات المتوفرة عبر شبكة الانترنت	الاختبارات الإلكترونية والواجبات عبر منصة التعليم الالكترونية

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
١	المشاركة	١-١٠	٥٪
٢	اختبارات سريعة	١-١٠	١٠٪
٣	واجبات	١-١٠	١٥٪
٤	اختبار تحريري نصفي	٥-٦	٢٠٪
٥	اختبار تحريري نهائي	١١-١٢	٥٠٪

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

يتم تخصيص ساعات مكتبية أسبوعية بمعدل ساعة أسبوعيا على الأقل
إرشاد الطالب إلى بعض المواقع الإلكترونية للإفادة منها. عقد حلقات نقاش بحثية يتم من خلالها شرح وتحليل بعض تطبيقات الذكاء الاصطناعي المستخدمة في حياتنا اليومية من خلال تطبيقات الأجهزة الذكية.

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	المحتوى الالكتروني للمقرر
المراجع المساندة	Nell Dale, John Lewis, (2020) Computer Science Illuminated, 7th Edition, Jones & Bartlett Learning. Artificial Intelligence – A Modern Approach (3rd Edition) By Stuart Russell & Peter Norvig. Artificial Intelligence for Humans, Volume 1: Fundamental Algorithms. ByJeff Heaton.
المصادر الإلكترونية	/https://teachablemachine.withgoogle.com /https://monkeylearn.com Orange Data Mining - Data Mining
أخرى	

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	معامل افتراضية نظام تعلم الكتروني
تجهيزات أخرى (تبعاً لطبيعة التخصص)	

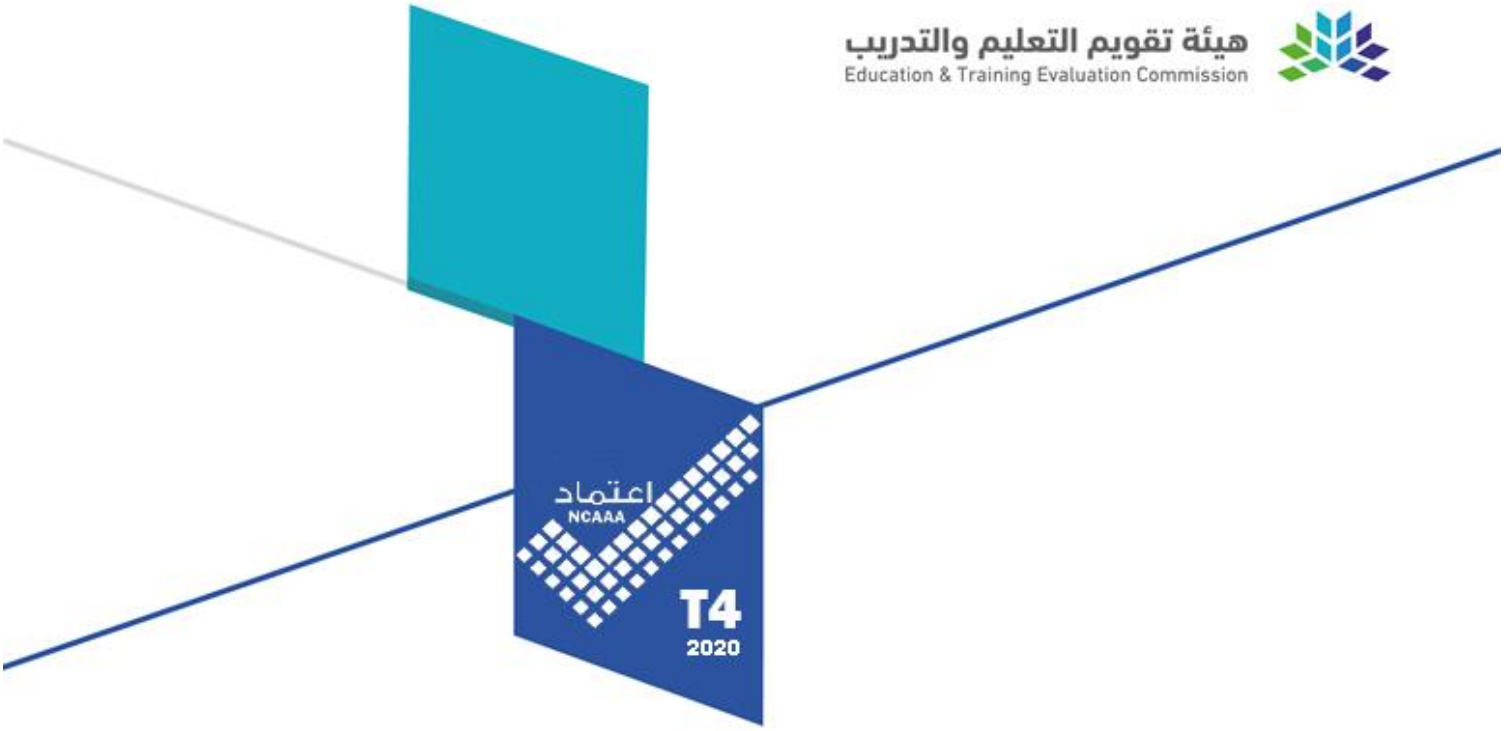
ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	الطلبة	غير مباشر (استبانات)
فاعلية طرق تقييم الطلاب	المراجع النظير	غير مباشر (استبانات)
مدى تحصيل مخرجات التعلم للمقرر	أعضاء هيئة التدريس	مباشر
مصادر التعلم	المراجع النظير	مباشر أو غير 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	مجلس القسم
رقم الجلسة	
تاريخ الجلسة	



توصيف المقرر الدراسي

اسم المقرر:	البحث والابتكار
رمز المقرر:	Psy14101
البرنامج:	جميع طلبة جامعة أم القرى
القسم العلمي:	علم النفس
الكلية:	التربية
المؤسسة:	جامعة أم القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

١. الساعات المعتمدة: ساعتان
٢. نوع المقرر أ. متطلب جامعة [√] متطلب كلية [ ] متطلب قسم [ ] أخرى [ ] ب. إجباري [ ] اختياري [√]
٣. السنة / المستوى الذي يقدم فيه المقرر : جميع البرامج الدراسية
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		
4	التعليم عن بعد	٢٤	%١٠٠
5	أخرى		

٧. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
١	محاضرات	١٤
٢	معمل أو إستوديو	
٣	دروس إضافية (حلقات البحث)	١٠
٤	أخرى (تذكر)	
	الإجمالي	٢٤

ب- هدف المقرر ومخرجاته التعليمية:

١. الوصف العام للمقرر: يقدم المقرر معلومات نظرية وتطبيقية عن البحث العلمي، وتوظيف مهارات البحث العلمي في حل المشكلات بطرق ابتكارية ، وتوظيف التقنيات الحديثة في البحث العلمي، ودور البحث العلمي والابتكار في تعزيز التنمية المستدامة تلبية لتطلعات الوطن لجيل مبدع يقدر البحث والابتكار.
٢. الهدف الرئيس للمقرر التميز في البحث والابتكار، ورفع مهارات البحث العلمي لدى الطلبة وتحفيزهم إلى إجراء البحوث وفقاً لمعايير الجودة البحثية.

٣. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	المعرفة والفهم	
1.1	أن يحدد مفهوم المعرفة	ع
1.2	أن يعدد أهداف البحث العلمي	ع
1.3	أن يشرح خطوات الابتكار	ع
1.4	أن يستعرض استراتيجيات إبداعية لحل المشكلات	ع
1.5	أن يصف خصائص المبتكرين والمبدعين	ع
1.6	أن يشرح دور الابتكار في التنمية المستدامة	ع

2	المهارات	
2.1	أن يطبق معايير تقييم الأفكار الابتكارية	م
2.2	أن يميز بين البحث الكمي والبحث النوعي	م
2.3	أن يقترح عدد من استراتيجيات وأفكار إبداعية لحل المشكلات	م
2.4	أن يوظف مهارات البحث العلمي في حل المشكلات بطرق ابتكارية	م
2.5	أن يستخدم التقنيات الحديثة في البحث والابتكار	م
3	القيم	
3.1	يلتزم بالسلوك المسئول الذي يتوافق مع أخلاقيات البحث العلمي.	ق
3.2	التواصل مع الآخرين ويعمل بروح الفريق	ق
3.3	احترام الرأي والرأي الآخر من خلال تبادل الأفكار ووجهات النظر عند التفاعل مع الأخرين	ق

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	مصادر المعرفة (مفهومها أهدافها، أنواعها، أهميتها) الحاجة الى المعرفة	٢
2	مقدمة عن البحث العلمي :مفهوم البحث العلمي وأهدافه، واهمية البحث العلمي ، وخصائصه، و اخلاقيات البحث العلمي	٢
3	خطة البحث العلمي :تحديد الفكرة العامة للبحث ،،مصادر المشكلة ،و صياغة مشكلة البحث تحليل مشكلة البحث	٢
4	أنواع البحث العلمي : البحث الكمي-البحث النوعي ،وصياغة الأسئلة البحثية ، الفروض البحثية	٢
5	دور البحث العلمي في الابتكار : تأسيس بيئة بحثية وابتكارية	٢
6	مقدمة عن الابتكار من حيث (المفهوم-أنواعه -خصائصه -مراحله)	٢
7	خطة الابتكار: من اين يبدا الابتكار؟ كيف نحصـــل على الافكار؟ كيفية اختيار فكرة مبتكره؟ كيفية توليد الافكار الجديدة ،مستويات الابتكار (الابتكار التزايدي- الابتكار المفاجئ- الابتكار التحويلي) الخطوات الثلاث لعملية الابتكار (التصور- التنفيذ- التسويق) ، ومعايير تقيم الافكار المبتكرة	٢
8	خصائص الشخصية المبتكرة ، العوامل المؤثرة على الابتكار (شخصية ، تنظيمية ، بيئية)	٢
9	دوافع الابتكار، مستويات الابتكار (على مستوى الفرد، الجماعة، المنظمة، المجتمع) مصادر الابتكار ، طرق قياس الابتكار وتنميته	٢
10	مخترعات وابتكارات بين القديم والحديث	٢
11	استراتيجيات وأفكار إبداعية لحل المشكلات	٢
12	تعزيز دور الابتكار من أجل التنمية المستدامة للمجتمع (المبادرات-التحديات)	٢
	المجموع	٢٤

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	يحدد مفهوم المعرفة	المحاضرة -العصف الذهني	عرض تقديمي يوضـــح تطور المعرفة
1.2	يعدد أهداف البحث العلمي	المحاضرة -العصف الذهني	خريطة ذهنية
1.3	يشرح خطوات الابتكار	المحاضرة -العصف الذهني حل المشكلات	مقـال علمي يوضـــح خطوات الابتكار
1.4	يســـتعرض اســـتراتيجيات إبداعية لحل المشكلات	المحاضرة العصف الذهني التعلم التعاوني	تـقـريـر جـمـاعـي يـحـدد الاســـتراتيجيات والأفكار الإبداعية التي تســـتخدم لحل المشكلات

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
1.5	يصف خصائص المبتكرين والمبدعين	المحاضرة العصف الذهني التعلم التعاوني	عرض تقديمي
1.6	يشرح دور الابتكار في التنمية المستدامة	المحاضرة البحث والاستقصاء	ورقة علمية بحثية مصغرة
2.0	المهارات		
2.1	يطبق معايير تقييم الأفكار الابتكارية	المحاضرة العصف الذهني حل المشكلات	تقديم تقرير جماعي كيف تستطيع الحكم بان افكارك قابلة للتطبيق والتنفيذ؟ كيف تقوم بتقييم افكارك الابتكارية؟
2.2	يميز بين البحث الكمي والبحث النوعي	المحاضرة العصف الذهني البحث والاستقصاء	تقرير جماعي : عمل مقارنة بين البحث الكمي والبحث النوعي من حيث: المفهوم- المنهج-خصائص)
2.3	يقترح عدد من استراتيجيات وأفكار إبداعية لحل المشكلات	المحاضرة العصف الذهني التعلم التعاوني	تقرير جماعي يحدد الاستراتيجيات والأفكار الإبداعية التي تستخدم لحل المشكلات
24	يوظف مهارات البحث العلمي في حل المشكلات بطرق ابتكارية	المحاضرة البحث والاستقصاء	ورقة علمية بحثية مصغرة
2.5	يستخدم التقنيات الحديثة في البحث والابتكار	المحاضرة البحث والاستقصاء	عرض تقديمي
3.0	القيم		
3.1	يلتزم بالسلوك المسئول الذي يتوافق مع أخلاقيات البحث العلمي.	التعلم التعاوني	سلم التقدير
3.2	التواصل مع الآخرين ويعمل بروح الفريق	التعلم التعاوني	سلم التقدير
3.3	احترام الرأي والرأي الآخر من خلال تبادل الأفكار ووجهات النظر عند التفاعل مع الأخرين	التعلم التعاوني	سلم التقدير

٢. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	تكليفات وأنشطة مستمرة على مدار الفصل الدراسي	أسبوعياً	٣٠%
2	الحضور والمشاركة	طول الفصل	١٠%
3	مشروع تخرج(مقطع فيديو، انفوجرافيك تفاعلي، عرض منتج ،٠٠٠ إعداد خطة بحثية ،منتج ابتكاري)		٣٠%
4	اختبار نهائي	أسبوع ١٢	٣٠%
5		المجموع	١٠٠%

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

هـ ـ أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- وجود ساعات مكتبية في جدول عضو هيئة تدريس تخصص لمقابلة الطلاب والتفاعل مع نقاشاتهم واستفساراتهم وتقديم الإرشاد الأكاديمي لهم.
- تزويد الطلاب بالبريد الإلكتروني ورقم الجوال ومواقع التواصل الاجتماعي لعضو هيئة التدريس للتواصل مع الطلاب في أي وقت يحتاجونه لمساعدتهم أكاديمياً.

و – مصادر التعلم والمرافق:

١. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	بصمة جي ، سائر(٢٠١٦) الابتكار الناجح، دار الكتب العلمية بصمة جي ، سائر(٢٠١٦) مصادر الأفكار المبتكرة، دار الكتب العلمية عليان، ربحي مصطفي(٢٠١٩) البحث العلمي أسسه. مناهجه وأساليبه وإجراءاته .بيت الأفكار الدولية
المراجع المساندة	موسى، رشاد علي ،والحطاب ،سهام أحمد(٢٠٠٤)الابتكار، دار الفكر العربي عبيدات،ذوقان ،عبدالحق،كايد وعدس،عبدالرحمن(٢٠١٨)البحث العلمي،دار الفكر العربي
المصادر الإلكترونية	منصة ابتكر /https://ibtekr.org بوابة الابتكار الوطنية (فكرة) /https://fikra.sa منصة الابتكار المفتوح /https://openinnovation.sa محركات البحث العلمي /https://www.academicinfo.net /https://www.refseek.com /https://scholar.google.ca /https://www.sweetsearch.com
أخرى	

٢. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعات دراسية
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	جهاز عرض البيانات، السبورة الذكية
تجهيزات أخرى (تبعاً لطبيعة التخصص)	معمل حاسب مجهز بالأنترنت

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
ـفاعلية التدريس، فاعلية مواد التدريب، توفر مصادر التعلم	- الطلاب - أعضاء هيئة التدريس - المراجع النظير - هيئة تقويم التعليم والتدريب	- استمارة تقويم المقرر والبرنامج - معايير هيئة تقويم التعليم والتدريب

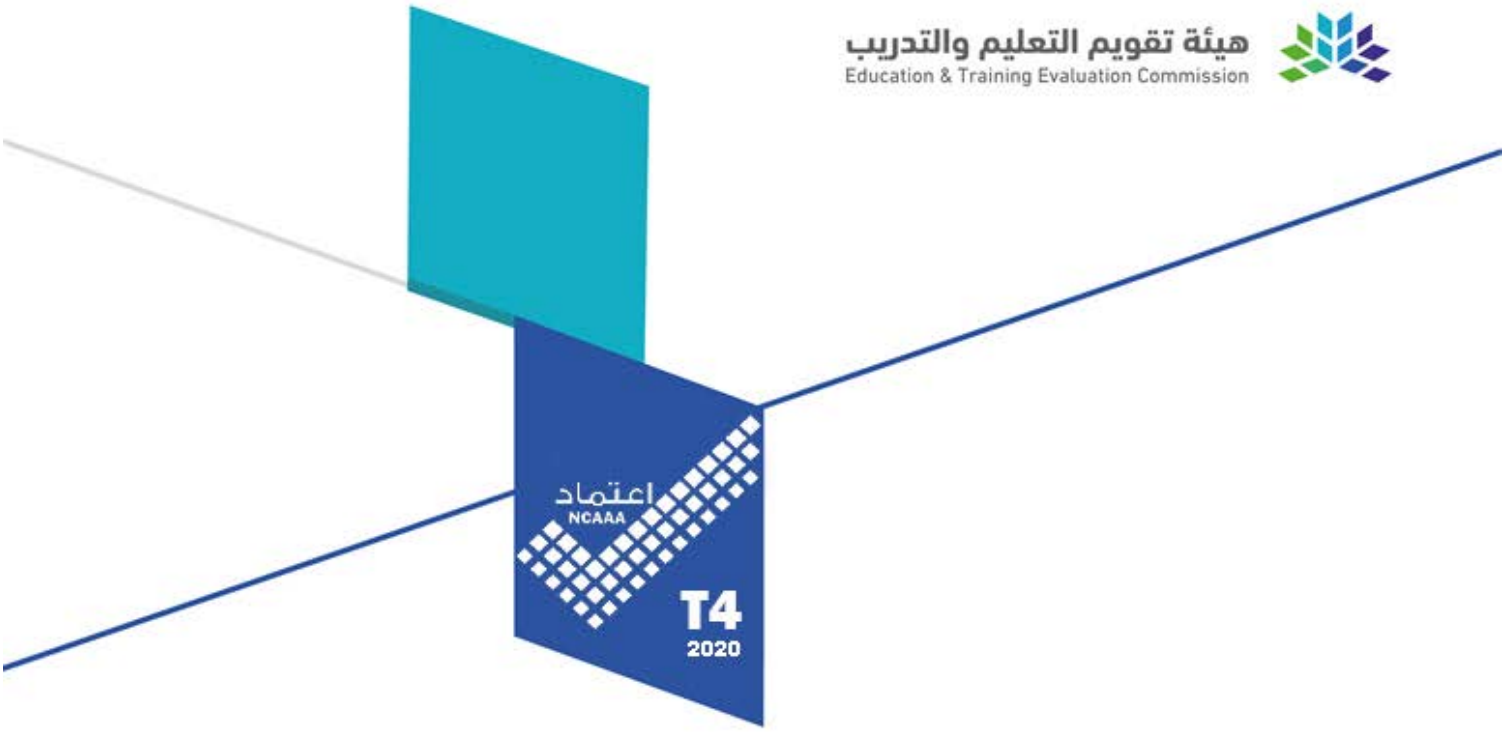
مجالات التقويم	المقيمون	طرق التقييم
-تدقيق تصحيح عينة من بحوث الطلبة ومشاريعهم بواسطة أعضاء هيئة تدريس مستقلين بالقسم من ذوي التخصص.	- أعضاء هيئة التدريس	نماذج الاختبارات
-تبادل الزيارات والخبرات والاستشارات بين النظراء (الأقران) في تدريس المقرر بالأقسام والكليات بالجامعات السعودية.	- أعضاء هيئة التدريس - المراجع النظير	استمارة التقييم
-تحديث مصادر التعلم الخاصة بالمقرر للتأكد من مواكبتها للتطورات المستجدة في المجال باستمرار وفقاً للمعطيات الحديثة، مع المراجعة الدورية لنتائج تقرير المقرر والبرنامج.	- أعضاء هيئة التدريس	استمارة رضا المستفيدين (الطلاب ، أعضاء هيئة التدريس)
تطوير المقرر باستمرار بناء على آراء أعضاء هيئة التدريس والطلاب في الاستبانات التي يقومون بتعبئتها، مع تحليل الوضع الراهن SWOT Analysis نقاط القوة/ نقاط الضعف ، الفرص المتاحة /التهديدات المحتملة ، استناداً لمعايير NAQAAE لأسس التخطيط الاستراتيجي للاعتماد الوطني.	- أعضاء هيئة التدريس - الطلاب	استمارة تقويم المقرر والبرنامج

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



توصيف المقرر الدراسي

اسم المقرر:	مدخل لصناعة السياحة
رمز المقرر:	
البرنامج:	إدارة السياحة والضيافة
القسم العلمي:	إدارة السياحة والفندقة
الكلية:	إدارة الإعمال
المؤسسة:	جامعة ام القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: 2 ساعة معتمدة

2. نوع المقرر

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

ب. إجباري ☐ اختياري ■

3. السنة / المستوى الذي يقدم فيه المقرر:

الثالثة / السابعة

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	18	%82
2	التعليم المدمج		
3	التعليم الإلكتروني		
4	التعليم عن بعد	4	%18
5	أخرى		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	22
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	22

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

تزداد اهمية صناعة السياحة كل يوم لما تمثلة من جزء اصيل في الدخل القومي لأغلب الدول حول العالم وللتطورات المتلاحقة في المجال حتى أصبحت ثالث أكبر صناعة على مستوى العالم بنسبة 10% من اجمالي الناتج الإجمالي العالمي، وتوظف يعادل 10% من اجمالي الوظائف على مستوى العالم. ويستمد هذا المقرر اهميته من كون السياحة ركيزة أساسية في رؤية المملكة 2030. واهمية ما فيه من قطاعات أخرى مثل قطاع الضيافة جزء أصيل في الثقافة والشخصية السعودية ومستمدة من شرف خدمة ضيوف الرحمن التي توارثناها جيلا بعد جيل، وقطاع المطاعم الذي يمثل أهمية بالغة على اقتصادات الدول وخصوصا في المملكة العربية السعودية الغنية بتنوع اطعمتها واطباقها المستمدة من تنوع ثقافتنا، وقطاع الفعاليات الذي يشكل مطلب رئيسي لتعزيز جودة الحياة للمواطن والمقيم على ارض المملكة. بالإضافة إلى السعي المستمر من الجهات والهيئات السعودية المختلفة للتطوير وتقديم اعلى المستويات العالمية في الخدمات لضيوف الرحمن. مع ما تشهده المملكة من مشروعات عملاقة متلاحقة لا تتوقف وحدها السماء.

2. الهدف الرئيس للمقرر

يهدف المقرر إلى تقديم المعارف الاساسية المتعلقة بالعمل في صناعة السياحة. مما يؤهل الطالب للتعرف على المكونات الرئيسية لهذه الصناعة المهمة، وحاجة الدول للاستفادة منها في تنمية اقتصاداتها وخلق فرص وظيفية لأبنائها، وفهم المستجدات الدولية المتعلقة بهذه الصناعة وما تتضمنها من قطاعات مختلفة مثل قطاع الضيافة، قطاع النقل، قطاع الفعاليات وموارد الجذب السياحي وقطاع التجزئة.

3. 3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	التعرف على انواع السياحة ومفاهيمها والمحفزات الأساسية وسلوك السائح	
1.2	التعرف على أنواع المنظمات المحلية والعالمية التي تدير وتشرف على قطاع السياحة	
1.3	التعرف على صناعة الضيافة وما تتضمنه من قطاعات أخرى مثل الفنادق والمطاعم والمقاهي وقطاع الاعاشة	
1.4	التعرف على صناعة الفعاليات وانواعها وخصائصها وكيفية إدارتها وتسويقها	
1.5	التعرف عناصر صناعة السياحة والضيافة في المملكة العربية السعودية	
1.6	التعرف على مقومات الجذب السياحي في مناطق المملكة العربية السعودية	
1.7	تطوير برنامج سياحي به مكونات مختلفة من صناعة الضيافة وآليات العمل السياحي	
2	**المهارات**	
2.1	عمل عروض عن الاتيكيت والبروتوكول اخلاقيات ممارسة المهنة	
2.2	كتابة بحث عن صناعة الضيافة والسياحة	
3	**القيم**	
3.1	تحقيق المعارف الأساسية لصناعة السياحة واهميتها الاقتصادية والثقافية والاجتماعية للدول وليكون متلقي هذا المقرر من طلاب وطالبات عنصر فاعل في المجتمع وتنميته.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	مقدمة لصناعة السياحة.	2
2	مفهوم السياحة والنظريات السياحية المختلفة	2
3	الانماط السياحية ومقومات الجذب السياحي	2
4	اهم أنواع السياحة وطرق الاستفادة منها في اقتصاد الدول	2
5	المنتج السياحي وموارد الجذب السياحي في المملكة واهميتها الاقتصادية	2
6	التنمية السياحية المستدامة	2
7	أعمال شركات السياحة والسفر	2
8	مقدمة لصناعة الضيافة وانواع المنشئات الفندقية	2
9	انواع المطاعم وخدمات الاعاشة وطرق تقديم الخدمة	2
10	إدارة الفعاليات	2
11	اخلاقيات العمل والسفر في مجال السياحة والضيافة	2
	المجموع	22

د. التدريس والتقييم:

4. 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	التعرف على مفهوم السياحة والسائح واهميتها الاقتصادية والثقافية والاجتماعية وبعض النظريات الاساسية	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات القصيرة الاختبارات النهائية البحث العرض
1.2	التعرف على اهم قطاعات السياحة مثل قطاع الضيافة والفعاليات والنقل وقطاع التجزئة	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات القصيرة الاختبارات النهائية البحث العرض
1.3	التعرف على المنتج السياحي وموارد الجذب عالميا وفي المملكة العربية السعودية	المحاضرات التفاعل خلال المحاضرات	الاختبارات النهائية البحث

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
		العروض التفاعلية	العرض
1.4	التعرف على صناعة الضيافة بجميع قطاعتها وطرق الخدمة والتعامل مع العملاء	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات النهائية البحث العرض
1.5	التعرف على قطاع الفعاليات بجميع أنواعها واشكالها وطرق ادارتها وتسويقها	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات النهائية البحث العرض
1.5	التعرف على اهم الأسس الأخلاقية في العمل في قطاع السياحة وأيضا اخلاقيات السائح عند سفره لاي وجهة سياحية	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات النهائية البحث العرض
2.0	**المهارات**		
2.1	مهارة كتابة الأبحاث وتقديم العروض المرئية	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض
2.2	مهارة العمل الجماعي من خلال كتابة مشاريع مشتركة	التفاعل خلال المحاضرات	البحث
3.0	**القيم**		
3.1	المثابرة والإصرار لتحقيق النجاح والتميز	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض
3.2	الحرص على نجاح الجميع من خلال العمل الجماعي	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض
3.3	الايمان بان العمل الجاد هو ما تقوم عليه الامم	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض

5. 2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	حضور وغياب ومشاركات أو اختبارات قصيرة (كويز)	جميع الأسابيع	%10
2	الاختبار النصفي	7 - 6	%20
3	بحث جماعي	10	%20
4	عرض تقديمي	11	%10
5	الاختبار النهائي	13	%40

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

يتمتع كل طالب بجامعة ام القرى عبر المنظومة الاكاديمية بمرشد أكاديمي محدد له في المنظومة ودعم ومتابعة من رئيس القسم المقدم لهذا المقرر. ويتاح عضو هيئة التدريس المدرس للمقرر لمدة نصف ساعة اسبوعياً بمكتبة للقاء الطلاب أو عن طريق البلاكبورد او الويبيكس لتقديم لهم الدعم والارشاد الأكاديمي.

و – مصادر التعلم والمرافق:

6. 1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	مدخل إلى السياحة والسفر والطيران – أ. حميد الطائي – تاريخ النشر 2022/2/4 – الناشر: مؤسسة الوراق للنشر والتوزيع
المراجع المساندة	مبادئ صناعة الضيافة – أ. يوسف محمد حافظ حماقي – تاريخ النشر 2019/1/1 الناشر: دار الكتاب الحديث
المصادر الإلكترونية	
أخرى	اخلاقيات صناعة السياحة والضيافة – د. مصطفى يوسف كافي – تاريخ النشر 2014 الناشر: مكتبة المجتمع العربي للنشر والتوزيع

7.

8. 2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	منصة اليكترونية مثل البلاكبورد
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	برنامج البلاكبورد والويبيكس
تجهيزات أخرى (تبعاً لطبيعة التخصص)	غير مطلوب

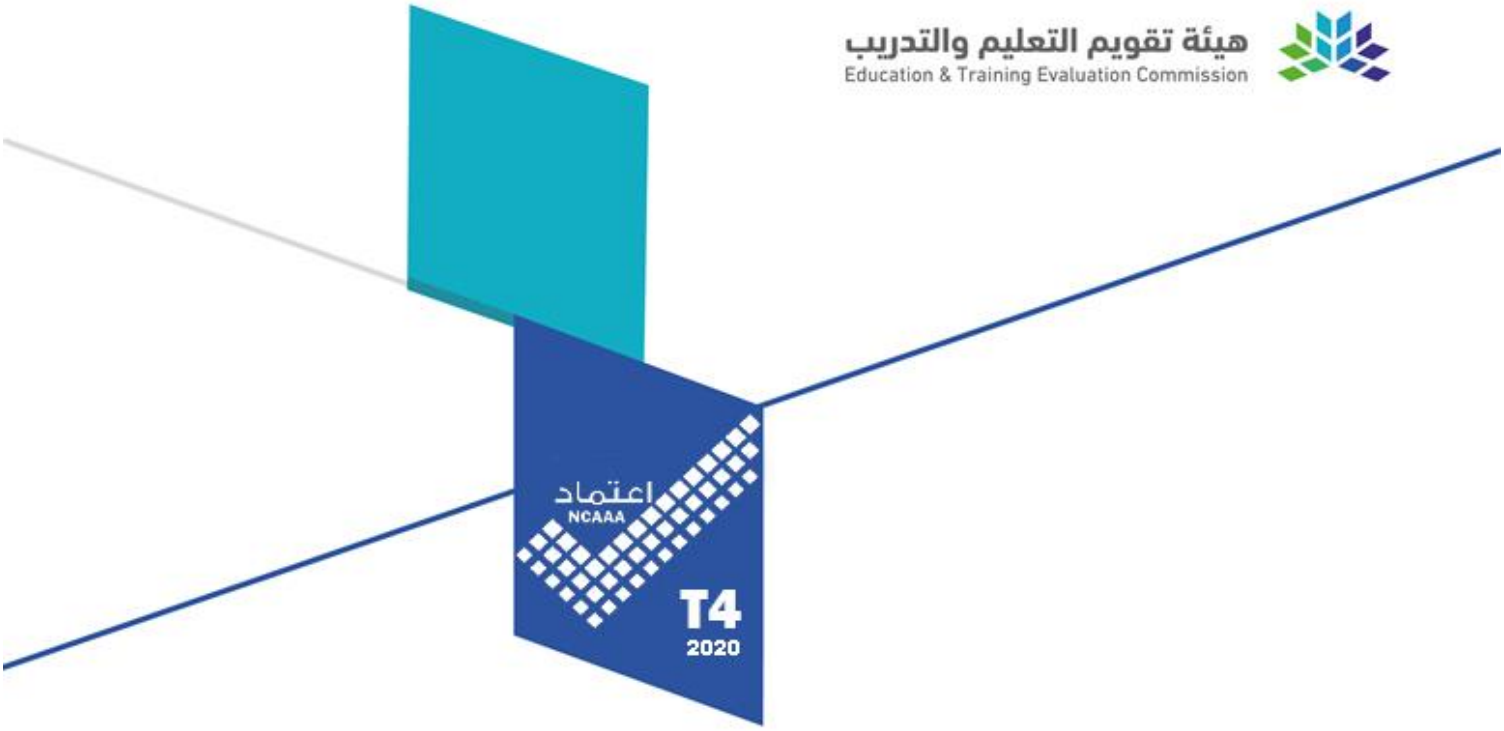
ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
مدى تحصيل مخرجات التعلم للمقرر	لجنة الجودة بقسم إدارة السياحة والفندقة	نتائج الاستبيان مع الطلاب نتائج الطلاب مراجعات لجنة الجودة
فاعلية التدريس	الطلاب	استبيانات أراء الطلاب

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	قسم إدارة السياحة والفندقة
رقم الجلسة	
تاريخ الجلسة	



توصيف المقرر الدراسي

اسم المقرر:	مهارات التأهيل المهني
رمز المقرر:	**BA1901**
البرنامج:	
القسم العلمي:	**إدارة الأعمال**
الكلية:	**إدارة الأعمال**
المؤسسة:	**جامعة أم القرى**

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة:
2. نوع المقرر أ. متطلب جامعة ☐ متطلب كلية ☐ متطلب قسم ☐ أخرى ☐ ب. إجباري ☐ اختياري ☐
3. السنة / المستوى الذي يقدم فيه المقرر
4. المتطلبات السابقة لهذا المقرر (إن وجدت)
5. المتطلبات المتزامنة مع هذا المقرر (إن وجدت)

6. نمط الدراسة (اختر كل ما ينطبق)

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

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	20
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	20

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

المقرر يساهم في تمكين الطالب من الإلمام بالمهارات الضرورية التي تؤهله للحصول على وظيفة، وأبعد من هذا تعزيز قدراته ومهاراته لتحقيق النجاح الوظيفي في مساره المهني مستقبلاً.

2. الهدف الرئيس للمقرر

المقرر يهدف أساساً لمساعدة الطالب في بناء تصور عن شخصيته وميوله المهني، وتزويده بالمهارات والمعارف اللازمة للحصول على وظيفة أثناء الدراسة الجامعية أو بعد التخرج، وعلى كيفية الاستعداد الجيد لسوق العمل. بالإضافة إلى ذلك؛ يركز المقرر على طيف واسع من أساسيات النجاح الوظيفي في المسار المهني للطالب في وظيفته المستقبلية، وتدريبه على بناء خطة تطبيقية للتطوير المهني المستمر يستفيد منها طوال حياته المهنية، بالإضافة إلى تعريفه بأساليب تصميم الوظيفة وتعزيز الارتباط الوظيفي مع مهارات التوازن بين العمل والحياة. يهدف المقرر كذلك لتدريب الطالب على مهارات الاتصال في بيئة العمل وتزويد الطالب بمعرفة عميقة عن حقوقه وواجباته الوظيفية وأخلاقيات السلوك المهني الرشيد، بالإضافة إلى مهارات عديدة كالعمل مع فرق العمل ومهارات الإلقاء والتقديم والتعامل مع العملاء والمستفيدين.

3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	أن يصف/يحدد الطالب شخصيته واهتماماته ومهاراته ونقاط قوته	
1.2	أن يميز أساسيات السلوك الإنساني في بيئة العمل	
1.3	أن يذكر الطالب حقوقه وواجباته الوظيفية	
1.4		
1.5		
2	**المهارات**	
2.1	أن يستعرض الطالب مهاراته في البحث عن وظيفة	
2.2	أن يصمم الطالب سيرة ذاتية ملائمة لاحتياجات سوق العمل	
2.3	أن يصمم الطالب خطة شخصية للتطوير المهني المستمر	
3	**القيم**	
3.1	أن يبدي الطالب اهتماماً نحو السلوك الأخلاقي في العمل	
3.2	أن يحترم الطالب الواجبات الوظيفية الملقة على عاتقه	
3.3	أن ينمو شعور الطالب نحو أهمية العلامة الشخصية وهويته الرقمية	
3...		

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	الاستعداد الوظيفي: التقييم الذاتي وتحديد الشخصية والاهتمامات والمهارات ونقاط القوة	2
2	الاستعداد الوظيفي: أنواع الوظائف ومهارات البحث عن عمل ودور التلمذة المهنية والتطوع	2
3	الاستعداد الوظيفي: تصميم السيرة الذاتية واجتياز المقابلات	2
4	السلوك الإنساني في بيئة العمل: الحقوق والواجبات الوظيفية والسلوك الأخلاقي في العمل	2
5	السلوك الإنساني في بيئة العمل: القدرات، التعلم، الاتجاهات، الرضا الوظيفي	2
6	السلوك الإنساني في بيئة العمل: أساسيات العمل مع فرق العمل	2
7	السلوك الإنساني في بيئة العمل: مهارات الاتصال في بيئة العمل	2
8	السلوك الإنساني في بيئة العمل: القيادة ومهارات إتباع القادة	2
9	النمو المهني: أساسيات المالية الشخصية	2
10	النمو المهني: مهارات التطوير المهني المستمر	2
11	النمو المهني: الإيسام الشخصي والهوية الرقمية	2
	المجموع	

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	أن يصف/يحدد الطالب شخصيته واهتماماته ومهاراته ونقاط قوته	المحاضرات - المناقشات	اختبار تحديد الشخصية والميول المهني – المشاركة الفصلية
1.2	أن يميز أساسيات السلوك الإنساني في بيئة العمل	المحاضرات - المناقشات	التكليفات – الاختبارات – المشاركة الفصلية
1.3	أن يذكر الطالب حقوقه وواجباته الوظيفية	المحاضرات - المناقشات	التكليفات – الاختبارات – المشاركة الفصلية

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
2.0	**المهارات**		
2.1	أن يستعرض الطالب مهاراته في البحث عن وظيفة	المحاضرات - المناقشات	المشروع الجماعي – الاختبارات – المشاركة الفصلية
2.2	أن يصمم الطالب سيرة ذاتية ملائمة لاحتياجات سوق العمل	المحاضرات - المناقشات	مشروع تصميم السيرة الذاتية – الاختبارات – المشاركة الفصلية
2.3	أن يصمم الطالب خطة شخصية للتطوير المهني المستمر	المحاضرات - المناقشات	مشروع خطة التطوير المهني المستمر – الاختبارات – المشاركة الفصلية
3.0	**القيم**		
3.1	أن يبدي الطالب اهتماماً نحو السلوك الأخلاقي في العمل	المحاضرات - القراءة الموجهة	دراسة حالات
3.2	أن يحترم الطالب الواجبات الوظيفية الملقة على عاتقه	المحاضرات - القراءة الموجهة	دراسة حالات
3.3	أن ينمو شعور الطالب نحو أهمية العلامة الشخصية وهويته الرقمية	المحاضرات - القراءة الموجهة	تصميم صفحة لينكد-إن

2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	خطة للتطوير المهني المستمر	11	10
2	تصميم السيرة الذاتية وصفحة لينكد-إن	8	15
3	اختبار نصفي	6	20
4	اختبار نهائي	12	40
5	عرض تقديمي جماعي	12	15
6			
7			

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

- تحديد أوقات الساعات المكتبية وإحاطة الطلاب بها
- تزويد الطلاب بخطة المقرر وآلية التقييم من بداية الفصل الدراسي، ومراجعتها معهم دورياً
- تتبع حالات الطلاب منخفضي الأداء وتقديم الدعم اللازم لهم

و – مصادر التعلم والمرافق:

1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	• السلوك التنظيمي: سلوك الأفراد والجماعات في المنظمات – الأستاذ الدكتور/محمد زناتي • يُنظر في المراجع المساندة أيضاً
المراجع المساندة	• كتاب المسار: دليل التطوير المهني – الأستاذ مشاري الغامدي • كتاب فن البحث عن وظيفة – الأستاذ أحمد بادويلان • كتاب: ثاني لفة يمين – د. أمجد الجنباز

	• *Kaiden, S. ed., 2016. Find Your Fit: A Practical Guide to Landing a Job You'll Love. Association for Talent Development. : https://www.amazon.com/Find-Your-Fit-Practical-Landing-ebook/dp/B01LY7XO6K • *Stella Cottrell (2021). Skills for Success: Personal Development and Employability: 4th ed (Macmillan Study Skills) • Ranjit Singh Malhi 2009. Make Yourself Employable: How Graduates Can Hit the Ground Running! – الكتاب مترجم في جرير: اجعل نفسك جديراً بـالتوظيفhttps://www.jarir.com/jarir-publication-282205762.html • Roy Horn 2020. The Business Skills Handbook. https://www.koganpage.com/product/business-skills-handbook-9781843982180-cipd • Robbins and Judge (2022). Essentials of Organizational Behavior. 15th edition.
المصادر الإلكترونية	• مقياس الميول المهنية – مركز قياس: https://etec.gov.sa/ar/productsandservices/Qiyas/CommStandards/Pages/Professional.aspx • اللائحة التنفيذية للموارد البشرية في الخدمة المدنية - https://hrsd.gov.sa/ar • موقع البوابة الوطنية للعمل - طاقات: https://www.taqat.sa/web/guest • موقع العمل المرن: https://mrn.sa/ • موقع المنصة الوطنية للتدريب الإلكتروني - دروب: https://doroob.sa/ar/ • أكاديمية مسك - https://hub.misk.org.sa/?lang=ar • Myers-Briggs Type Indicator (MBTI): https://www.myersbriggs.org/my-mbti-personality-type/ • DISC: https://www.discprofile.com/ • The Big Five Personality Test: https://www.outofservice.com/bigfive/
أخرى	المكتبة الرقمية السعودية

2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	قاعات دراسية تناسب عدد الطلاب
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	جهاز حاسوب مزود بالانترنت، سبورة ذكية
تجهيزات أخرى (تبعاً لطبيعة التخصص)	

ز. تقويم جودة المقرر:

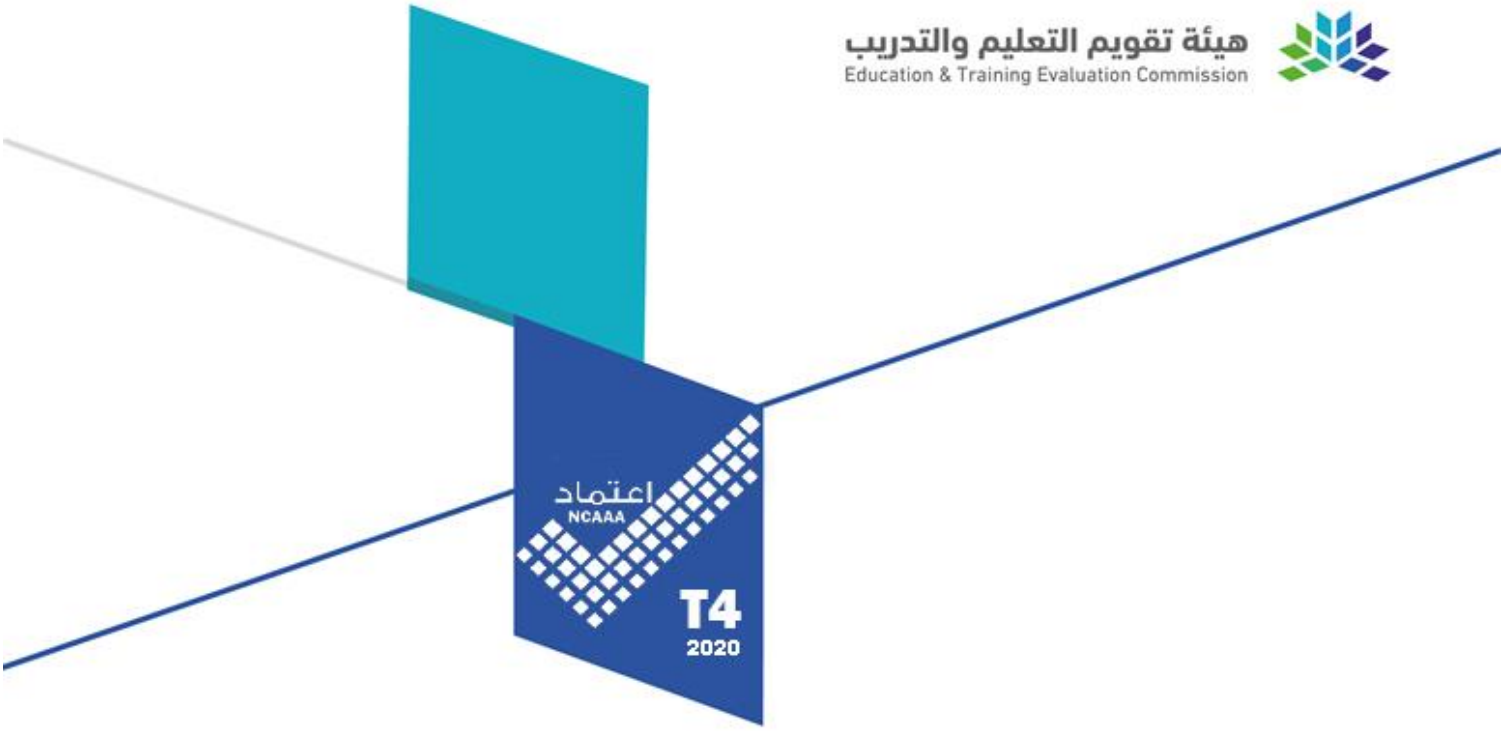
مجالات التقويم	المقيمون	طرق التقييم

مجالات التقويم	المقيمون	طرق التقييم
فاعلية التدريس	الطلاب – منسق المقرر – رئيس القسم – قيادات البرنامج	استطلاعات مباشرة، وملاحظة غيرمباشرة
فاعلية طرق تقييم الطلاب	المراجع النظير - منسق المقرر – رئيس القسم – قيادات البرنامج	مباشرة: عينة عشوائية من نماذج تقييم الطلاب وأعمالهم
مدى تحصيل مخرجات التعلم للمقرر	المراجع النظير - منسق المقرر – رئيس القسم – قيادات البرنامج	مباشرة: نتائج الطلاب في الاختبارات الدورية والنهائية

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	



توصيف المقرر الدراسي

اسم المقرر:	مقدمة في الضيافة
رمز المقرر:	**TOR1101**
البرنامج:	إدارة السياحة والضيافة
القسم العلمي:	إدارة السياحة والفندقة
الكلية:	إدارة الإعمال
المؤسسة:	جامعة ام القرى

المحتويات

أ. التعريف بالمقرر الدراسي:

1. الساعات المعتمدة: 2 ساعة معتمدة

2. نوع المقرر

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

ب. إجباري ☐ اختياري ■

3. السنة / المستوى الذي يقدم فيه المقرر:

الثالثة / السابعة

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		
4	التعليم عن بعد	22	% 100
5	أخرى		

7. ساعات الاتصال (على مستوى الفصل الدراسي)

م	النشاط	ساعات التعلم
1	محاضرات	22
2	معمل أو إستوديو	
3	دروس إضافية	
4	أخرى (تذكر)	
	الإجمالي	22

ب- هدف المقرر ومخرجاته التعليمية:

1. الوصف العام للمقرر:

تزداد اهمية صناعة السياحة كل يوم لما تمثلة من جزء اصيل في الدخل القومي لأغلب الدول حول العالم وللتطورات المتلاحقة في المجال حتى أصبحت ثالث أكبر صناعة على مستوى العالم بنسبة 10% من اجمالي الناتج الإجمالي العالمي، وتوظف يعادل 10% من اجمالي الوظائف على مستوى العالم. ويستمد هذا المقرر اهميته من كون السياحة ركيزة أساسية في رؤية المملكة 2030. واهمية ما فيه من قطاعات أخرى مثل قطاع الضيافة جزء أصيل في الثقافة والشخصية السعودية ومستمدة من شرف خدمة ضيوف الرحمن التي توارثناها جيلا بعد جيل، وقطاع المطاعم الذي يمثل أهمية بالغة على اقتصادات الدول وخصوصا في المملكة العربية السعودية الغنية بتنوع اطعمتها واطباقها المستمدة من تنوع ثقافتنا، وقطاع الفعاليات الذي يشكل مطلب رئيسي لتعزيز جودة الحياة للمواطن والمقيم على ارض المملكة. بالإضافة إلى السعي المستمر من الجهات والهيئات السعودية المختلفة للتطوير وتقديم اعلى المستويات العالمية في الخدمات لضيوف الرحمن. مع ما تشهده المملكة من مشروعات عملاقة متلاحقة لا تتوقف وحدها السماء.

2. الهدف الرئيس للمقرر

يهدف المقرر إلى تقديم المعارف الاساسية المتعلقة بالعمل في صناعة السياحة. مما يؤهل الطالب للتعرف على المكونات الرئيسية لهذه الصناعة المهمة، وحاجة الدول للاستفادة منها في تنمية اقتصاداتها وخلق فرص وظيفية لأبنائها، وفهم المستجدات الدولية المتعلقة بهذه الصناعة وما تتضمنها من قطاعات مختلفة مثل قطاع الضيافة، قطاع النقل، قطاع الفعاليات وموارد الجذب السياحي وقطاع التجزئة.

3. 3. مخرجات التعلم للمقرر:

	مخرجات التعلم للمقرر	رمز مخرج التعلم المرتبط للبرنامج
1	**المعرفة والفهم**	
1.1	التعرف على انواع السياحة ومفاهيمها والمحفزات الأساسية وسلوك السائح	
1.2	التعرف على أنواع المنظمات المحلية والعالمية التي تدير وتشرف على قطاع السياحة	
1.3	التعرف على صناعة الضيافة وما تتضمنه من قطاعات أخرى مثل الفنادق والمطاعم والمقاهي وقطاع الاعاشة	
1.4	التعرف على صناعة الفعاليات وانواعها وخصائصها وكيفية إدارتها وتسويقها	
1.5	التعرف عناصر صناعة السياحة والضيافة في المملكة العربية السعودية	
1.6	التعرف على مقومات الجذب السياحي في مناطق المملكة العربية السعودية	
1.7	تطوير برنامج سياحي به مكونات مختلفة من صناعة الضيافة وآليات العمل السياحي	
2	**المهارات**	
2.1	عمل عروض عن الاتيكيت والبروتوكول اخلاقيات ممارسة المهنة	
2.2	كتابة بحث عن صناعة الضيافة والسياحة	
3	**القيم**	
3.1	تحقيق المعارف الأساسية لصناعة السياحة واهميتها الاقتصادية والثقافية والاجتماعية للدول وليكون متلقي هذا المقرر من طلاب وطالبات عنصر فاعل في المجتمع وتنميته.	

ج. موضوعات المقرر

م	قائمة الموضوعات	ساعات الاتصال
1	مقدمة لصناعة السياحة.	2
2	مفهوم السياحة والنظريات السياحية المختلفة	2
3	الانماط السياحية ومقومات الجذب السياحي	2
4	اهم أنواع السياحة وطرق الاستفادة منها في اقتصاد الدول	2
5	المنتج السياحي وموارد الجذب السياحي في المملكة واهميتها الاقتصادية	2
6	التنمية السياحية المستدامة	2
7	أعمال شركات السياحة والسفر	2
8	مقدمة لصناعة الضيافة وانواع المنشئات الفندقية	2
9	انواع المطاعم وخدمات الاعاشة وطرق تقديم الخدمة	2
10	إدارة الفعاليات	2
11	اخلاقيات العمل والسفر في مجال السياحة والضيافة	2
	المجموع	22

د. التدريس والتقييم:

4. 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	التعرف على مفهوم السياحة والسائح واهميتها الاقتصادية والثقافية والاجتماعية وبعض النظريات الاساسية	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات القصيرة الاختبارات النهائية البحث العرض
1.2	التعرف على اهم قطاعات السياحة مثل قطاع الضيافة والفعاليات والنقل وقطاع التجزئة	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات القصيرة الاختبارات النهائية البحث العرض
1.3	التعرف على المنتج السياحي وموارد الجذب عالميا وفي المملكة العربية السعودية	المحاضرات التفاعل خلال المحاضرات	الاختبارات النهائية البحث

الرمز	مخرجات التعلم	استراتيجيات التدريس	طرق التقييم
		العروض التفاعلية	العرض
1.4	التعرف على صـــناعة الضـــيافة بجميع قطاعتها وطرق الخدمة والتعامل مع العملاء	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات النهائية البحث العرض
1.5	التعرف على قطـاع الفعـاليـات بجميع أنواعهـا واشكالها وطرق ادارتها وتسويقها	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات النهائية البحث العرض
1.5	التعرف على اهم الأســس الأخلاقية في العمل في قطاع السياحة وأيضـا اخلاقيات السـائح عند سـفره لاي وجهة سياحية	المحاضرات التفاعل خلال المحاضرات العروض التفاعلية	الاختبارات النهائية البحث العرض
2.0	**المهارات**		
2.1	مهارة كتابة الأبحاث وتقديم العروض المرئية	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض
2.2	مهارة العمل الجماعي من خلال كتابة مشـــاريع مشتركة	التفاعل خلال المحاضرات	البحث
3.0	**القيم**		
3.1	المثابرة والإصرار لتحقيق النجاح والتميز	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض
3.2	الحرص على نجـاح الجميع من خلال العمـل الجماعي	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض
3.3	الايمان بان العمل الجاد هو ما تقوم عليه الامم	التفاعل خلال المحاضرات العروض التفاعلية	البحث العرض

5. 2. أنشطة تقييم الطلبة

م	أنشطة التقييم	توقيت التقييم (بالأسبوع)	النسبة من إجمالي درجة التقييم
1	حضور وغياب ومشاركات أو اختبارات قصيرة (كويز)	جميع الأسابيع	%10
2	الاختبار النصفي	7 - 6	%20
3	بحث جماعي	10	%20
4	عرض تقديمي	11	%10
5	الاختبار النهائي	13	%40

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

هـ - أنشطة الإرشاد الأكاديمي والدعم الطلابي:

يتمتع كل طالب بجامعة ام القرى عبر المنظومة الاكاديمية بمرشد أكاديمي محدد له في المنظومة ودعم ومتابعة من رئيس القسم المقدم لهذا المقرر. ويتاح عضو هيئة التدريس المدرس للمقرر لمدة نصف ساعة اسبوعياً بمكتبة للقاء الطلاب أو عن طريق البلاكبورد او الويبيكس لتقديم لهم الدعم والارشاد الأكاديمي.

و – مصادر التعلم والمرافق:

6. 1. قائمة مصادر التعلم:

المرجع الرئيس للمقرر	مدخل إلى السياحة والسفر والطيران – أ. حميد الطائي – تاريخ النشر 2022/2/4 – الناشر: مؤسسة الوراق للنشر والتوزيع Lucius Walker (2017) Tourism and Hospitality Management, Published by Library Press, New York, NY 10001, USA.
المراجع المساندة	مبادئ صناعة الضيافة – أ. يوسف محمد حافظ حماقي – تاريخ النشر 2019/1/1 الناشر: دار الكتاب الحديث John Walker and Josielyn Walker (2019) Introduction to Hospitality, Edition 8, Pearson Education, Florida Chiranjib kumar (2017) Introduction To Tourism & Hospitality, 1st edition, CreateSpace Independent Publishing Platform, ISBN 978-1541064492. Ruth Dowson and David Bassett (2018) Event Planning and Management: Principles, Planning and Practice, 2nd Edition, Kogan, ISBN 0749483318.
المصادر الإلكترونية	
أخرى	اخلاقيات صناعة السياحة والضيافة – د. مصطفى يوسف كافي – تاريخ النشر 2014 الناشر: مكتبة المجتمع العربي للنشر والتوزيع

7.

8. 2. المرافق والتجهيزات المطلوبة:

العناصر	متطلبات المقرر
المرافق (القاعات الدراسية، المختبرات، قاعات العرض، قاعات المحاكاة ... إلخ)	منصة اليكترونية مثل البلاكبورد
التجهيزات التقنية (جهاز عرض البيانات، السبورة الذكية، البرمجيات)	برنامج البلاكبورد والويبيكس
تجهيزات أخرى (تبعاً لطبيعة التخصص)	غير مطلوب

ز. تقويم جودة المقرر:

مجالات التقويم	المقيمون	طرق التقييم
مدى تحصيل مخرجات التعلم للمقرر	لجنة الجودة بقسم إدارة السياحة والفندقة	نتائج الاستبيان مع الطلاب نتائج الطلاب مراجعات لجنة الجودة
فاعلية التدريس	الطلاب	استبيانات أراء الطلاب

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	قسم إدارة السياحة والفندقة
رقم الجلسة	
تاريخ الجلسة	