

Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department



نموذج وصف البرنامج الأكاديمي

2026

جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقييم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد البرامجي

نموذج وصف البرنامج الأكاديمي

للعام الدراسي 2025 - 2026

اسم الجامعة: جامعة الكتاب

اسم الكلية: كلية الهندسة

القسم العلمي: قسم هندسة الاطراف والمساند الصناعية

اسم البرنامج الأكاديمي: خطة دراسية لدرجة البكالوريوس. الدرجة العلمية قسم هندسة الأطراف والمساند الصناعية

اسم الشهادة النهائية: بكالوريوس هندسة الاطراف والمساند الصناعية

النظام الدراسي: (نظام فصلي)

تاريخ إعداد الوصف: 2025/12

تاريخ ملء الملف: 2025/12

معاون العميد للشؤون العلمية

د. سالم يحيى قاسم

التاريخ: 2025 / 12

التوقيع

عميد الكلية



ا.د صباح محمد جميلة الكتاب

التاريخ: 2025 / 12

التوقيع

رئيس القسم

التاريخ: 2025 / 12

التوقيع

دقق الملف من قبل م.م. يونس فاروق فائق

شعبة ضمان الجودة والأداء الجامعي

اسم مدير قسم ضمان الجودة والأداء الجامعي: م.د. نور نبيل عبدالقادر

التاريخ: 2025 / 12

التوقيع

1- رؤية البرنامج

يسعى قسم هندسة الاطراف و المساند الصناعية أن يكون واحداً من البرامج الرائدة في هندسة الاطراف و المساند الصناعية في العراق والمنطقة.

2- رسالة البرنامج

- 1- تخريج مهندس أطراف ومساند صناعية ذو مؤهلات تعليمية و أخلاقية عالية.
- 2- بناء صفات القيادة لدى خريجي القسم من خلال تعليم الحلول للمشكلات، والعمل الجماعي، واعتبارات الجودة، والمهنية في العمل.
- 3- غرس روح الالتزام وحب المعرفة وخدمة المجتمع في الخريجين.
- 4- المساهمة بأفكار للمشاريع وإجراء الأبحاث لصالح وتطوير المجتمع.
- 5- رعاية و دعم الطلبة المتميزين وتشجيعهم على استخدام مهاراتهم.
- 6- إرشاد الطلبة ودعم روح المواطنة.
- 7- توفير بيئة عمل جيدة للطلبة وأعضاء الهيئة التدريسية والموظفين المساعدين مع التركيز على المعايير الأكاديمية والمهنية والأخلاقية العالية داخل الحرم الجامعي. حرية الآراء واحترام آراء الآخرين وتشجيع تبادل المعرفة.

3- أهداف البرنامج

1. توظيف ورعاية والاحتفاظ بالطلاب المتميزين.
2. تكريم ورعاية والاحتفاظ بأعضاء الهيئة التدريسية والموظفين المتميزين.
3. تعزيز شعور قوي بالمجتمع والزمالة بين الطلاب والهيئة التدريسية والموظفين والخريجين.
4. تحسين التعليم والتعلم من خلال التقييم المستمر. 5
5. تعزيز البحث والاستشارات التي تلبي الاحتياجات الفورية وطويلة الأجل للمجتمع.
6. إنشاء علاقة قوية مع المجتمع، لا سيما مع الصناعة، للتعاون في تعزيز اقتصاد البلاد.
7. الاستمرار في تطوير والحفاظ على بنية تحتية كافية.

4- اعتماد البرنامج

5- تأثيرات خارجية أخرى

6- هيكل البرنامج

Program Structure	Number of Courses	Credit hours	Percentage	Reviews*
	%17	20	9	متطلبات الجامعة
	%25	65	13	متطلبات الكلية
5 مواضيع اختيارية ضمن متطلبات القسم	%58	156	30	متطلبات القسم
التدريب الصيفي	شهرين (مستوفي)			
				اخرى

- ممكن ان تتضمن الملاحظات فيما اذا كان المقرر اساسي او اختياري

8- وصف البرنامج

Level/Year	Course Code	Course Name	ECTS
	URDEM	Democracy and Human Rights	2

7. Program Description

Level/Year	Course Code	Course Name	ECTS
1 st Sem/First	URDEM	Democracy and Human Rights	2
	URCOM	Computer	3
	URARA	Arabic Language I	2
	MATH110	Mathematics	6
	CREQ110	Engineering Drawing	5
	POER110	Statics	7
	CREQ111	Chemistry	5
2 nd Sem/First	MATH120	Fundamental of Engineering Mathematics	6
	CREQ111	Programing	3
	URENG1	English Language I	2
	PHYS120	Physics	6
	CREQ120	Engineering Graphics	5
	POER120	Dynamics	5
	CREQ121	Workshop Technology	3

1 st Sem/Second	URENG2	English Language II	2
	CREQ211	Principles of Management	2
	URBRC	Crimes of the Defunct Baath Party	2
	MATH210	Engineering Mathematics	5
	POER210	Anatomy	6
	POER211	Strength of Materials	6
	POER212	Orthoses I	7
2 nd Sem/Second	Biomaterials	المواد الحيوية	3
	Analytic Mathematics	رياضيات تحليلية	4
	Biomechanics	الميكانيك الحيوي	4
	Electronics	الالكترونيك	4
	Prostheses I	اطراف صناعية	7
	Elective I	الختياري	3
	Arabic Language II	اللغة العربية	2
	Computer II	احاسوب	3
1 st Sem/Third	POER310	Prosthetics III	6
	POER311	Orthotics III	4
	POER312	Biomechanical Behavior of Materials	2
	POER313	Numerical Analysis	3

	POER314	Mobility and Rehabilitation I	4
	POER315	Biomechanics III	4
	POER316	Pathology I	2
	CREQ310	Engineering Statistics	3
2 nd Sem/Third	POER320	Prosthetics IV	6
	POER321	Orthotics IV	4
	POER322	Computer Applications	4
	POER323	Mobility and Rehabilitation II	2
	POER324	Nerve System	4
	POER325	Pathology II	2
	POER326	Robotics	4
	POER327	Manufacturing Processes	2
1 st Sem/ Fourth	POER410	Control Measurements I	5
	POER411	Prosthetic Clinical Practice I	4
	POER412	Orthotic Clinical Practice I	4
	POER413	Mechanical Design	4
	POER414	Vibrations (Elective I)	3
	POER415	Thermodynamics (Elective II)	3
	CREQ410	Project	4
2 nd Sem/ Fourth	POER420	Control Measurements II	3
	POER421	Prosthetic Clinical Practice II	4

	POER422	Orthotic Clinical Practice II	4
	POER423	Artificial Intelligent	5
	POER424	Fluid Mechanics (Elective III)	3
	POER425	Research Methodology in Health (Elective IV)	3
	CREQ420	Project	4

7. Expected learning outcomes of the program

Knowledge

1- Understanding and comprehending after every lesson, lecture or training 2- Scientific application of theoretical lessons 3- The ability to perform and implement according to what the student studied 4- Seriously deal with situations with special cases	Learning Outcomes Statement
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Skills

1 - The ability to produce artificial limbs and supports and determine priorities for each task 2 - Mastery of the basics of the profession of manufacturing limbs and supports 3 - Determine the appropriate specialization in the field of parties and supports 4 - The ability to keep pace with the latest developments in the artificial limbs and supports industry	Learning Outcomes Statement
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Ethics

1- Learn the principles of human rights 2- The ability to deal with humanitarian situations 3- Ability to analyze 4- The ability to be creative	Learning Outcomes Statement
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8. Teaching and Learning Strategies

Theoretical lessons.

Practical lessons.

Training and practical application in peripheral centers.

9. Evaluation methods

Semester exams, tests and daily.

Written tests.

Applied practices.

Completion of graduation projects.

10. Faculty

Faculty Members

Academic Rank	Specialization		Special Requirements/Skills (if applicable)	Number of the teaching staff	
	General	Special		Staff	Lecturer
Asst.Prof. Dr. Yasser Yaarub Qahtan	Mechanical Engineering	Applied mechanics		√	
Prof. Dr. Mahmoud Rashid Ismail	Mechanical Engineering	Biomechanics		√	
Prof. Dr. Ahmed Abdel Samie Abdel Wahab	Production and metallurgy engineering	Production engineering		√	
Prof.Dr. Wajdi Sadiq Abboud	Mechanical Engineering	Mechatronics		√	
Asst.Prof. Dr. Haider Mwafaq Tawfiq	Chemical engineering	Multiphase transmission		√	
Asst.Prof. Dr. Donia Abdel-Saheb Hashem	Physics Science	Physics of biomaterials		√	
Dr. Haider Abbas Salal	Materials engineering	Materials engineering		√	
Asst.Prof. Dr. Ammar Essam Saleh	Mechanical Engineering	Applied mechanics		√	
Asst.Prof. Dr. Fahd Muhannad Kazem	Mechanical Engineering	Applied mechanics		√	
Ms. Yousra Saber Karim	Chemical engineering	Industrial units		√	

Asst.Prof. Saif Muhammad Abbas	Mechanical Engineering	Mechanical engineering			√	
Ms. Salem Fattah Awad	electrical engineering	control			√	
Ms. Hind Dhia Reda	Mechanical Engineering	Refractories			√	
Ms. Donia Khalaf Hamad	Biology	Zoology			√	

Professional Development

Mentoring new faculty members

Training courses in specialized centers.
 Field visits to hospitals and specialized centers.
 Attending seminars and workshops.

Professional development of faculty members

Training courses in specialized centers.
 Field visits to hospitals and specialized centers.
 Attending seminars and workshops.

11. Acceptance Criterion

High secondary school certificate rates (95% and above).
 Desire to work in the specialty.
 personal interview.

12. The most important sources of information about the program

Methodical books.
 Manufacturing processes for parties.
 ISPO Competent Organizations.

13. Program Development Plan

TEMPLATE FOR PROGRAM SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAM REVIEW

PROGRAM SPECIFICATION

This Program Specification provides a concise summary of the main features of the program and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the program.

1. Teaching Institution	Al Nahrain University
2. University Department/Centre	College of Engineering
3. Program Title	Prosthetics and Orthotics Engineering Department
4. Title of Final Award	B.Sc. in Prosthetics and Orthotics Engineering
5. Modes of Attendance offered	Two Semesters each Academic Year
6. Accreditation	ISPO
7. Other external influences	
8. Date of production/revision of this specification	2023
9. Aims of the Program	
	Enrich the students with the scientific knowledge in the field of Prosthetics and Orthotics manufacturing.
	Introducing the theoretical and practical applications regarding Prosthetics and Orthotics
	Awarding B.Sc. degree
	Developing the ability for scientific thinking and specifying future plans

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

- A1. Understanding and comprehending after each lecture and practice.
- A2. Scientific application of theoretical lessons.
- A3. The ability to perform and implement what had been studied.
- A4. Serious dealing with special cases.
- A5.
- A6.

B. Subject-specific skills

- B1. The ability to produce prosthetics, orthotics and define each priorities.
- B2. To obtain the fundamentals of prosthetics and orthotics manufacturing.
- B3. Define the suitable specialty in prosthetics and orthotics field.
- B4. The ability to keep up with the development in the prosthetics and orthotics field.

Teaching and Learning Methods

Theoretical Lectures

Laboratories Lessons

Training and Scientific Application in Prosthetics and Orthotics Centers

Assessment methods

Mid Term Exam and Daily Quizzes

C. Thinking Skills

- C1. The ability to remember.
- C2. The capability to analyze.
- C3. The ability to create.
- C4.

Teaching and Learning Methods

Using Modern Techniques and Laboratories

Assessment methods

Written Exams
Applied Practice
Graduation Projects

D. General and Transferable Skills (other skills relevant to employability and personal development)

- D1. Applied practice is necessary to complete the theory
- D2. Professional expertise
- D3.
- D4.

Teaching and Learning Methods

Practical courses in specialized centers
Field visits to hospitals and specialized centers
Conference and workshop attendance

Assessment Methods

11. Program Structure				12. Awards and Credits
Level/Year	Course or Module Code	Course or Module Title	Credit rating	
				Bachelor Degree Requires (220 hrs/week* 15 week = 3330 hrs) credits

1 st Sem/First	URDEM	Democracy and Human Rights	2	
	URCOM	Computer	3	
	URARA	Arabic Language I	2	
	MATH110	Mathematics	6	
	CREQ110	Engineering Drawing	7	
	POER110	Statics	6	
	CREQ111	Chemistry	5	
1 st Sem/Second	MATH120	Fundamental of Engineering Mathematics	6	
	CREQ111	Programing	3	
	URENG1	English Language I	2	
	PHYS120	Physics	6	
	CREQ120	Engineering Graphics	6	
	POER120	Dynamics	6	
	UREQ220	University Requirements III	1	
	MATH220	Mathematics IV	4	
	POER220	Prosthetics II	2	
	POER221	Orthotics II	6	

2 nd Sem/Second	POER222	Strength of Materials II	5	
	POER223	Electronics	6	
	POER224	Biomechanics II	2	
	POER225	Physiology	2	
1 st Sem/Third	POER310	Prosthetics III	6	
	POER311	Orthotics III	4	
	POER312	Biomechanical Behavior of Materials	2	
	POER313	Numerical Analysis	3	
	POER314	Mobility and Rehabilitation I	4	
	POER315	Biomechanics III	4	
	POER316	Pathology I	2	
	CREQ310	Engineering Statistics	3	
	POER320	Prosthetics IV	6	
	POER321	Orthotics IV	4	
2 nd Sem/Third				

	POER322	Computer Applications	4	
	POER323	Mobility and Rehabilitation II	2	

	POER324	Nerve System	4	
	POER325	Pathology II	2	
	POER326	Robotics	4	
	POER327	Manufacturing Processes	2	
1 st Sem/ Fourth	POER410	Control Measurements I	5	
	POER411	Prosthetic Clinical Practice I	4	
	POER412	Orthotic Clinical Practice I	4	
	POER413	Mechanical Design	4	
	POER414	Vibrations (Elective I)	3	
	POER415	Thermodynamics (Elective II)	3	
	CREQ410	Project	4	
2 nd Sem/ Fourth	POER420	Control Measurements II	3	
	POER421	Prosthetic Clinical Practice II	4	
	POER422	Orthotic Clinical Practice II	4	
	POER423	Artificial Intelligent	5	
	POER424	Fluid Mechanics (Elective III)	3	
	POER425	Research Methodology in Health (Elective IV)	3	
	CREQ420	Project	4	

13. Personal Development Planning

14. Admission criteria.

High averages in high school (95% minimum)
The desire to work in the field of prosthetics and orthotics
Personal interview

15. Key sources of information about the program

Text Books
Prosthetics and Orthotics manufacturing processes
Specialized Organizations (ISPO)

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing I		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input checked="" type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO104		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	09	College	03
Module Leader	Lecture: Ismail Awad	e-mail	
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To understand the basic principles of engineering drawing 2. To have the knowledge of interpretation of dimensions of different quadrant

	<p>projections.</p> <ol style="list-style-type: none"> To have the knowledge of generating the pictorial views Convert sketches to engineering drawings. Draw orthographic and isometric projections of solid objects. Familiarity with engineering drawing standards and practices. Prepare simple drawings as plan, elevation and section.
<p>Module Learning Outcomes</p> <p>مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> Identify and use the basic tools of engineering drawing. Sketch engineering components (lines, arches, polygons, isometries....etc.) using engineering drawing tools. Understand the theory of projection of solids. Understand the theory of projection of points. To enhance the prediction skills in finding missing projections. To Develop adequate prediction of hidden features. To find the true length of lines. Use the principles of orthographic projections. To understand and deal with various drawing dimensions.
<p>Indicative Contents</p> <p>المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p><u>Descriptive Engineering [15hrs] including:</u></p> <p>Basic projection planes, theory of projection of points [1hr]</p> <p>Elevation and plan concepts, representing the projection of a point. [2hrs]</p> <p>Traces of points, finding vertical and horizontal traces of a line. [2hrs]</p> <p>Projection of lines on principal planes. [2hrs]</p> <p>Finding true length of lines, using rabatment method. [3hrs]</p> <p>Finding true length of lines using rotation method. [2hrs]</p> <p>Exercises on finding missing coordinates of lines using their projections. [3hrs]</p> <p><u>Engineering hand drawing [35hrs] including:</u></p> <p>Familiarizing the students with basic engineering drawing tools, sheet types, fixing sheets before drawing and sheet layout. [3hrs]</p> <p>Types of lines. [2hrs]</p> <p>Basic drawing sketches. [4hrs]</p> <p>Engineering drawing operations. [4hrs]</p> <p>Projection of solids using free hand drawing. [4hrs]</p> <p>Finding the missing projection of a drawing. [5hrs]</p> <p>Projection of solids in scale drawing. [5hrs]</p> <p>Adding dimensions to sketches. [4hrs]</p> <p>Hidden lines of sketches. [4hrs]</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to enhance student's skills in spatial perception. In this strategy, students play an active role, initially manually sketching and on the drawing board before proceeding to the computer. The other strategy was interleaving. This strategy involves practicing this module in more than one way. This includes performing drawings in different ways depending on the student understanding. Other strategies include encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials.
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	100	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	6.7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	50	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	3.3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	10% (10)	3, 6, 9	LO #3, 4, 7, 8
	Assignments (Home works)	13	15% (15)	2-14	LO # 1, 2, 5, 6, 9
	Projects (class works)	13	15% (15)	2-14	LO # 1, 2, 5, 6, 9
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-4, 7, 8
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to drawing sheets, drawing tools + Introduction to Descriptive Engineering
Week 2	Sheet layout, types of lines + Theory of projection
Week 3	Basic drawing sketches + projection of a point + Quiz1
Week 4	Drawing operations part 1 + projection of a lines
Week 5	Drawing operations part 2 + traces of lines
Week 6	Projection of solids (free hand) + true length of lines + Quiz2
Week 7	Mid-term exam
Week 8	Projection of solids part 1 (scale) + Rabatment method
Week 9	Projection of solids part 2 (scale) + Rabatment method applications + Quiz 3
Week 10	Finding missing projection 1 + rotational method
Week 11	Finding missing projection 2 + finding missing coordinates 1
Week 12	Drawing hidden lines part 1 + finding missing coordinates 1
Week 13	Drawing hidden lines part 2
Week 14	Adding dimensions
Week 15	Adding dimensions
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الأسبوعي المختير

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Descriptive Geometry by : Dr. Yousef Nicola Engineering drawing by: Abdurassool Al-Khazffaf	Yes
Recommended Texts	The Theory of Engineering Drawing by Alphonse Andrew Adler	No
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definiton
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (يُعيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Chemistry		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO102		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	1
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Ali Sabah Ali	e-mail	
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module			
Co-requisites module			

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحفوظات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. To understand the principles and applications of modern chemistry instrumentation, experimental design and data analysis. 2. To distinguish between Analytical chemistry and other branches of chemistry 3. To understand the properties (physical and chemical) and the benefits of materials. 4. To perform the methods of concentration evaluation. 5. To understand the types of thermos chemical reactions, reaction constant, the factors affecting on them.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Introduce basic definitions and Introductory concepts of analytical chemistry. 2. Show the different methods to prepare solutions with different concentrations and PH. 3. Explains the methods to control the precipitation process. 4. Show the methods for the quantitative calculations of oxidation reduction reactions. 5. Explains how different quantitative measurements equipments works for the calculations of concentrations, such as atomic absorption spectrophotometry, UV spectrometer, gas chromatography ... etc. 6. Provide a background to higher level courses involving dealing with different solutions. 7. Provide a strong quantitative and analytical understanding to the students in order to be able to deal with different solution concentrations and its preparation in chemical industry
Indicative Contents المحفوظات الإرشادية	Indicative content includes the following. Introduction to analytical chemistry, stoichiometric calculations, and periodic table. [8 hrs] Calculation of Normality, Molarity, and Molality, evaluation of density, percent [8 hrs] Equilibrium in the acids and bases, Indicators of bases and acids, Equilibrium in precipitation [8 hrs] Partial precipitation, analysis using oxidation and reduction [8 hrs] Factors effecting the chemical reaction, calculation of dilution [8 hrs] Calculation of equilibrium constant and solving examples [8 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to give the students background and strong basic to higher level courses involving dealing with different solutions specifically during dealing with solutions in laboratory. This will be achieved through classes, interactive tutorials ,asking questions ,discussions and solving samples of problems in class and homework .

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			مصدر معلومات الجدول من ثابت الاكمل للمناهج
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	72	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب اسبوعيا	72/15=4.8
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	53	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب اسبوعيا	53/15=3.5
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1,2, 4 and 5
	Assignments	4	10% (10)	2,4,6,8,	LO # 3,6,9 and 10
	Projects	1	5%(5)	4	LO # 1 to 4
	Report	1	10% (10)	8	LO # 7 and 8
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المناهج الامبيرعي النظري

	Material Covered
Week 1	Foundation: Atoms, molecules and ionic compounds; masses of atoms; stoichiometry; naming of chemical compounds; physical properties of compounds; and periodic table.
Week 2	Chemical Reactions: Chemical equations; major reaction types; and enthalpy of chemical processes.
Week 3	Atoms: Light; electrons; quantum numbers; atomic orbitals; electronic configurations; and general periodic trends in properties among elements
Week 4	Chemical Bonding: Nature of chemical bonding; ionic bond; covalent bond; valence bond theory and hybridization; resonance; molecular shape by VSEPR method; bond polarity; Intermolecular forces.
Week 5	Chemistry of Carbon: Naming of compounds containing carbon chains and rings; isomerism, regioisomers, and optical isomers; major functional groups: alkanes, alkenes, alcohols, aldehydes, ketones, carboxylic acids, and esters; major reactions and properties of functional groups.
Week 6	Measurement in Chemistry: Significant figures; SI units; substances and mixtures; solution and concentration; mole and Avogadro's number; chemical reactions and balanced equations; and temperature scales.
Week 7	Principle of Chemical Equilibria: law of chemical equilibrium and equilibrium constant; and Le Chatelier principle.
Week 8	Acid-Base Equilibria in Aqueous Solutions: Acid and Base concepts, Ionization of water; pH, pOH, and pK _w ; acids and bases; polyprotic acids; buffers; and solubility equilibria.
Week 9	Solubility and Complex-Ion Equilibria: Solubility constants and solubility; common ion effects; precipitation; and equilibria involving complex ions.
Week 10	Structures and Reactions of Organic Compounds: Organic compounds and structures, aming compounds, stereoisomerisms; functional groups of organic compounds; nucleophilic substitution reactions addition reactions of alkenes; electrophilic aromatic Substitution
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1. Douglas A. Skoog / fundamentals of analytical chemistry	Yes
Recommended Texts	Jeffrey S. Gaffny Nancy A. Marley / General Chemistry for Engineering	Yes
Websites	https://pubs.acs.org/journal/ancham https://www.nature.com/subjects/analytical-chemistry	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التصنيف	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	متبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (تيد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Math I		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO101		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	1
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Mohammed Abdul Qadir	e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	Lecture
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. To develop problem solving skills and understanding of derivatives and integrals. 2. To understand the difference between the different types of functions. 3. Use the derivative concepts to understand the behavior of function in form of function sketching. 4. This course deals with the basic concept of functions, limits, continuity, derivations, and integrations. 5. To clarify the applications of both of derivative and integrals.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Define the function and trigonometric functions. 2. Understanding the definition of limits, continuity and how to deals with different functions. 3. Identify the basic of derivative. 4. Discuss the different meaning of derivatives. 5. Explaining the types, degree, and rules of derivatives. 6. Understanding the applications of derivatives. 7. Identify the basic circuit elements and their applications. 8. Discuss the basic approach of integrals. 9. understanding the different types of integrals and their applications. 10. Explain the applications of integration and how to calculate the ach length.
Indicative Contents المحتويات الإرشادية	Introduction to Function, Trigonometric Functions [5 hrs] Limits and Continuity [5 hrs] Rates of Change and Tangents to Curves, Limit of a Function and Limit Laws, One-Sided Limits [5 hrs] Continuity, Limits Involving Infinity; Asymptotes of Graphs [6 hrs] Differentiation, Tangents and the Derivative at a Point, The Derivative as a Function Differentiation Rules, The Derivative as a Rate of Change, Derivatives of Trigonometric Functions [6 hrs] The Chain Rule, Implicit Differentiation, Related Rates, Linearization Applications of Derivatives, Extreme Values of Functions, Monotonic Functions and the First Derivative Test [6 hrs] Concavity and Curve Sketching [5 hrs] Mid Term Exam I Integration, Area and Estimating with Finite Sums, Sigma Notation and Limits of Finite Sums [5 hrs] The Definite Integral, The Fundamental Theorem of Calculus [5 hrs] Applications of Definite Integrals, Volumes Using Cross-Sections [5 hrs] Arc Length [5 hrs] Areas of Surfaces of Revolution [5 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	72	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب اسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	78	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب اسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	8	10% (10)	Continuous	All
	Assignments	5	10% (10)	Continuous	All
	Projects	1	10% (10)	Continuous	All
	Report	-	-	-	-
Summative assessment	Midterm Exam	2 hr	20% (20)	10	LO # 1-9
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Function, Trigonometric Functions
Week 2	Limits and Continuity
Week 3	Rates of Change and Tangents to Curves, Limit of a Function and Limit Laws, One-Sided Limits
Week 4	Continuity, Limits Involving Infinity; Asymptotes of Graphs
Week 5	Differentiation, Tangents and the Derivative at a Point, The Derivative as a Function
Week 6	Differentiation Rules, The Derivative as a Rate of Change, Derivatives of Trigonometric Functions
Week 7	The Chain Rule, Implicit Differentiation, Related Rates, Linearization.
Week 8	Applications of Derivatives, Extreme Values of Functions, Monotonic Functions and the First Derivative Test
Week 9	Concavity and Curve Sketching
Week 10	Mid Term Exam I
Week 11	Integration, Area and Estimating with Finite Sums, Sigma Notation and Limits of Finite Sums
Week 12	The Definite Integral, The Fundamental Theorem of Calculus
Week 13	Applications of Definite Integrals, Volumes Using Cross-Sections
Week 14	Arc Length
Week 15	Areas of Surfaces of Revolution
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	

Week 7	
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Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Thomas' Calculus I Maurice D. Weir, Joel Hass, George B. Thomas.-12th Ed.	Yes
Recommended Texts	Thomas' Calculus I Maurice D. Weir, Joel Hass, George B. Thomas.-12th Ed.	No
Websites	-	

Grading Scheme مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	متبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX -- Fail	راسب (في المعالجة)	(45-49)	More work required but credit awarded
	F -- Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Human Rights & Democracy		Module Delivery
Module Type	Support		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO106		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	1	Semester of Delivery	
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Muayd Sadi	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To understand rights and freedoms 2. To Learn about children's rights 3. To Understanding the meaning of democracy, its types and its historical development until the present time 4. To Interested in the student's knowledge of democracy well, and the difference between it and freedom 5. To know the elections, their role and importance, and the role of the voter's voice 6. To Knowledge of democratic systems practiced by countries 7. To Recognizing the meaning of integrity and combating corruption In the system
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Developing cognitive skills To understand rights and freedoms, democracy and its types, stages of development of democracy and its importance Developing 2. Learning the rights of the child 3. Gaining the skill, experience and knowledge to perform the elections and their importance 4. understand pseudo-democracy and be able to know the meaning of democracy and its difference from freedom Performing 5. Understand Types of democracy used and the best and the reason for its use 6. Understanding Elections, methods and requirements 7. Knowing the meaning of integrity and combating corruption in the system 8. Develop the student's ability to dialogue and discussion
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p>Basic concepts of rights and freedoms and their types [2 hours] Child rights in legislation and Islam [2 hours]The roots of the concept of democracy and its development [2 hours],Elements, Requirements, and Environment of Democracy T [3 hours],The importance of elections Knowledge of its systems, terminology and application [3 hours],Recognizing the importance of the democratic system [1 hour] Objection and how to implement It [2 hours], Prepare a report[1 hour], Presentation on integrity and preservation of public money[2 hours]</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in presenting this unit is to develop students' skills in research and familiarity with the concept of freedom and democracy, how to perform elections, the importance of one's voice, integrity, transparency, and the preservation of public money. Have the students present different topics via homework.

Student Workload (SWL) الحمل الدراسي للطالب محسوب له ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	30	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	45	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1,2,3 and 5,6,7
	Assignments				
	Projects	1	10% (10)	15	-
	Report	2	10% (10)	12	LO # 1,3,4 and 5
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1,7,8 to 12
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to rights and freedoms
Week 2	Children's rights in conventions and in Islam
Week 3	The roots of the concept of democracy and its development
Week 4	Learn the basics of democracy
Week 5	Knowledge of the requirements of democracy And the best environment for democracy
Week 6	Learn about its advantages to democracy and main ingredients
Week 7	Find out the best kind of democracy
Week 8	characteristics of the democratic system
Week 9	The importance of elections and preliminary procedures for elections
Week 10	Knowledge of election and referendum systems
Week 11	Objection and how to apply it and the popular solution
Week 12	Discussion of reports (the difference between freedom and democracy)
Week 13	Integrity and transparency in the democratic system
Week 14	
Week 15	Discuss a presentation on Integrity and transparency
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	National Center for Human Rights and Democracy (Iraq Ministry of Human Rights Research Department 2013) Political systems / Dr. Hamid Hanoun Khaled Human rights between text and application Dr. Ali Shukry The Interim State Administration Law of 2004 and the permanent Iraqi constitution of 2005 Human rights and democracy Prepared by a.m.d. Ghassan Karim Majthab, a.m. Amjad Zine El Abidine Tohme Jamil Hamdawi, Education and Democracy, Diwan Al Arab - http://www.diwanalarab.com	No
Recommended Texts	Dr. Maher Sabry Kazem Human Rights, Democracy and Public Freedoms (Baghdad 2010)	No
Websites	https://www.statistics	

Grading Scheme				
مخطط الدرجات				
Group	Grade	تقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (يُبدى المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Statics		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO102		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	1
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Hendren Ali Saber	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. To Introduce and understand the basics of Static Engineering Mechanics. 2. To provide students with the basic skills to analyse static from first principles, contextualised to the human body. 3. To understand the areas of structural analysis, as appropriate for prosthetics and orthotics engineering applications. 4. To develop skills, knowledge and problem-solving skills and understanding of Newton's Laws through the application of techniques regarding P&O. 5. To Consider the fundamental techniques of force analysis. 6. To Identify and model various types of loading and support conditions that act on structural systems. 7. To Apply pertinent mathematical, physical and engineering mechanical principles to the system to solve and analyze the problem.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Demonstrate knowledge and understanding of static equilibrium as applied to the human body 2. Testing the state of the bodies or particles when the load system is applied 3. Determine the components of 2D/3D forces and moments in rectangular coordinate systems. 4. Manipulate vector and geometric vectors to compute dot products, moments, and resultants as they relate to engineering problems. 5. Identifying the applied forces and types of analysis 6. Draw complete and correct free-body diagram(s) (including support reactions), then 7. write and solve the appropriate equilibrium equations from the free-body diagram(s). 8. Determine the member forces within trusses and joint reactions in frames and machines. 9. Compute and draw the centroid and centre of gravity for regular and irregular bodies.
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p>Basic concepts the basics of Static Engineering Mechanics [6 hrs] Explain Vectors, trigonometric functions, and Types of algebraic analysis [6 hrs] Describe the Line of action, Forces, Type of forces decompile, Resultant, and moments of forces [6 hrs] Solving problems and homework [8 hrs] Learning Geometric, graphical, and analysis methods [8 hrs] Recognize the static system conditions [8 hrs] Learning the components of 2D/3D forces and moments [8 hrs] Study the concept of dry friction and show how to analyze the equilibrium of rigid bodies subjected to this force [8hrs] Identify centroid for a body of arbitrary shape and one composed of composite parts, solved examples [6 hrs].</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to provide the student with a clear and thorough presentation of the theory and application of engineering mechanics Statics and be familiar with analyzing, manipulating and solving problems related to Prosthetics and the prosthetics field. This will be achieved through classes, interactive tutorials, asking questions, discussions and solving samples of problems in class and homework.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعاً			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	86	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	64	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	4, 8	LO #1,2, 4 and 5
	Assignments	4	15% (15)	2,4,6,8,	LO # 3,6,8 and 9
	Projects	-	-	-	-
	Report	1	10% (10)	14	LO # 7 and 9
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Mechanics
Week 2	Statics of Particles
Week 3	Statics of Rigid Bodies
Week 4	Vectors
Week 5	Force analysis
Week 6	Moment of force
Week 7	Couples
Week 8	Distributed Forces
Week 9	Resultants
Week 10	Free Body Diagram
Week 11	Equilibrium
Week 12	Friction Forces
Week 13	Centre of gravity
Week 14	Moments of Inertia
Week 15	Forces in 3D_1
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Engineering Mechanics: Statics Mareim 4 th or 5 th Edition	Yes
Recommended Texts	1. Engineering mechanics, Hibler 2. Biomechanics of human body, Susan Hill	No
Websites	None	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التصنيف	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (تيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Orthosis I		Module Delivery
Module Type	Core learning activity		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO307		
ECTS Credits	8		
SWL (hr/sem)	200		
Module Level	2	Semester of Delivery	4
Administering Department	09	College	03
Module Leader	Lecture :Mowafaq Abdullah Saleh	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. To understand types of deformity of lower and upper limb 2. To know the aim and indication of use orthosis 3. To understand types of lower and upper limb orthosis 4. To identify the procedure of manufacturing orthosis
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Learning the students types lower and upper limb orthoses 2. Learning the students, the principles of work the orthosis 3. To understand the indication and contraindication of using each orthosis 4. Learning the students how select the suitable orthosis for treatment the deformity
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Biomechanics of the lower limb parts , principles in lower Orthoses and orthotist [6 hrs] Three point pressure correction , Type of Ankle Foot Orthosis , Manufacturing of Ankle Foot Orthosis [8 hrs] Type of knee joint , Types of Knee Ankle Foot Orthosis , Manufacturing of Knee Ankle Foot Orthosis [6 hrs] Type of Hip orthosis and HKAFO , Hip-knee-ankle-foot orthoses [6 hrs] Principles and components of upper limb orthoses [6 hrs] Three point pressure correction, Type of hand Orthosis [6 hrs] Manufacturing of Hand Orthosis Practical Lecture ,Type of Wrist Orthosis ,Type of shoulder orthosis [6 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to develop students in orthosis I and encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills a .This will be achieved through classes, interactive tutorials ,asking questions ,discussions and solving samples of questions in class and homework .

Student Workload (SWL)			
الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	128	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب اسبوعيا	8.5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب اسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	200		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects/Lab	1	10% (10)	Continuous	All
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction and Terminology, Biomechanical principles of orthotic design , Anatomy of the lower limb parts (Bones, muscles, and nerves)
Week 2	Biomechanics of the lower limb parts , General principles in lower Orthoses and orthotist
Week 3	List the types of lower extremity orthoses , Orthoses materials and Types of Deformity
Week 4	Three point pressure correction , Type of Ankle Foot Orthosis , Manufacturing of Ankle Foot Orthosis
Week 5	Type of knee joint , Types of Knee Ankle Foot Orthosis , Manufacturing of Knee Ankle Foot Orthosis
Week 6	Manufacturing of Knee Ankle Foot Orthosis , Practical Lecture , Type of knee joint
Week 7	Mid-term Exam + Type of Hip orthosis and HKAFO , Hip-knee-ankle-foot orthoses
Week 8	Anatomy of the upper limb parts (Bones,muscles,and nerves), Biomechanics of the upper limb parts
Week 9	Principles and components of upper limb orthoses, General principles in upper Orthoses

Week 10	List the types of upper extremity orthoses , Orthoses materials and Types of Deformity
Week 11	Three point pressure correction, Type of hand Orthosis
Week 12	Manufacturing of Hand Orthosis Practical Lecture
Week 13	Type of Wrist Orthosis ,Type of shoulder orthosis
Week 14	Functional bracing of selected upper limb fracture
Week 15	Orthoses for overuse disorders of the upper limb
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المناهج الاسبوعي للمختبر

	Material Covered
Week 1	Manufacturing Foot Orthosis
Week 2	Manufacturing of Ankle Foot Orthosis (flexible type)
Week 3	Manufacturing of Ankle Foot Orthosis (Rigid type)
Week 4	Manufacturing of Knee Ankle Foot Orthosis
Week 5	Manufacturing of Hand Orthosis
Week 6	Manufacturing of Hand -wrist Orthosis
Week 7	Manufacturing of elbow Orthosis

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	ICRC+ISPO	No
Recommended Texts	Cambodian School of Prosthetics and Orthotics	No
Websites		

Grading Scheme مخطط الدرجات				ناتج الدورة
Group	Grade	التفسير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	عكبرل	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (لقد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Strength of Materials		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO306		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	2	Semester of Delivery	1
Administering Department	06	College	03
Module Leader	Lecture : Hendren Ali Saber	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor	Name (if available)	e-mail	6
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	POER110 Statics	Semester	1
Co-requisites module	POER411 Mechanical Design	Semester	7

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. problem-solving, To develop the required skills and learn the basic concepts of stress and strain. 2. Experimentation and data analysis, run several tests in the laboratory to know the basics of the strength of materials science. 3. Engineering knowledge <ol style="list-style-type: none"> a. To understand the terms of safety factor, yield stress and strain. b. This course deals with the basic concept of shear stress and its types, i.e. shear in pins and bolts, torsion, and shear strain. c. To perform more complex bar structural and nodes analysis. d. To understand the basic effect of temperature changes on stress and strain in bars problems. e. To perform shear force diagram and bending moment diagram on beams. f. To learn how to analyze beam stress and deflection, and its application in prosthesis applications. g. To understand the basic stress analysis of thin cylinders, and its application in prosthesis applications.
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Recognize how forces flow through the structural items and how it results in stress and strain. 2. List the various terms associated with values of stress and strain in any structural item. 3. Summarize what is meant by the types of stress and strain. 4. Describe how the safety factor concept works and how it is important in everyday life applications. 5. Define bars and beams and recognize the differences between them. 6. Identify the basic torsion load effects on a shaft, then recognize what type of stress is the result of such external load. 7. Discuss the procedure of finding the shear force and bending moment diagrams. 8. Explain how stress and deflection happened in beams due to external loads such as forces and moments. 9. Identify how thin cylinders stress is different from direct stress.
<p>Indicative Contents المحتويات الإرشادية</p>	<p><u>Part A – Stress and Strain</u> Stress and strain definitions, types, applications and recognition. Introduction to thermal stress, safety factor and its applications in everyday life applications and prosthetics. [15 hrs]</p> <p>Torsion – Torsion loads and how it results in shear stress and shear strain. Application</p>

	<p>on torsion loads for circular shafts. [6 hrs]</p> <p>Shear force and bending moment diagrams – learning how to sketch the Shear force and bending moment diagrams, then find their values. Using several approaches to sketch and determine the values of the Shear force and bending moment diagrams. [15 hrs]</p> <p><u>Part B – Beam Bending stress and beam deflections</u></p> <p>Bending stress. Recognition of bending stress in beams, and how it differs from direct stress in bars. Knowing the factors that affect bending stress values and how each factor can be modified to find the required beam performance. [14 hrs]</p> <p>Deflection in beams. Finding the factors that affect the beam’s deflection, and how it can be calculated to find deflection at any point of the beam. Using different approaches to determine the deflection in beams according to the loading conditions and the beam supports types [14 hrs]</p>
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<p style="text-align: center;">Learning and Teaching Strategies استراتيجيات التعلم والتعليم</p>	
<p>Strategies</p>	<p>The main strategy that will be adopted in delivering this module is to encourage students’ participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering a range of simple experiments involving some sampling activities that are interesting to the students, also by conducting several laboratory experiments which introduce the basic concept of what students learned in the theoretical lectures.</p>

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	86	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	5.7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	64	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	4.2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	3	15% (15)	5, 8, 13	LO #1, 2, 3, 6, 7, 10 and 11
	Assignments	1	5% (5)	12	LO # 1 to 10
	Projects / Lab.	1	15% (15)	Continuous	All
	Report	1	5% (5)	14	LO # 9 to 13
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to the fundamental principles, stress and strain.
Week 2	Types of stress, direct and indirect. Thermal stress and strain.
Week 3	Applications on stress and strain types, pins, bolts, plates, bars, structures, and joints.
Week 4	Safety factor concept.
Week 5	Torsion stress and strain, Solving examples and Quiz.
Week 6	Introduction to Shear and Bending moment diagram.
Week 7	Applications on Shear and Bending moment diagram.
Week 8	Mid-term Exam.
Week 9	Introduction on Bending stress.

Week 10	Applications on Bending stress.
Week 11	Introduction on Deflection on beams.
Week 12	Applications on Deflection on beams.
Week 13	Combined deflection and stress in beams
Week 14	Introduction on Thin cylinder
Week 15	Applications on Thin cylinder
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الأسبوعي المختبر

	Material Covered
Week 1	Lab 1: Introduction to strength of material laboratory.
Week 2	Lab 2: Tensile test.
Week 3	Lab 3: Compression test.
Week 4	Lab 4: Modulus of rigidity.
Week 5	Lab 5: Torsion test.
Week 6	Lab 6: Impact test.
Week 7	Lab 7: Bending and deflections of beam test.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	MECHANICS OF MATERIALS, by Ferdinand P. Beer. And MECHANICS OF MATERIALS, by E. J. Hearn	No
Recommended Texts	Strength of Materials, by Ferdinand L.Singer	Yes
Websites	N/A	

Grading Scheme

مخطط الدرجات				
Group	Grade	التعبير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (تيد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Principles of Management		Module Delivery
Module Type	Support		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO302		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	3
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Ahmed Lazem	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To understand the meaning of management and what it is and its types, including strategic management, human resource management and leadership. 2. Understanding the interrelationship between these functions, and highlighting the basic principles and related concepts. 3. Knowledge of management principles that can be practiced in all functions and learn how to practice concepts and theories in organizations 4. Understanding the levels of management, its role, the concept of leadership and its theories 5. Understand the main management functions planning, organizing, directing and manager roles 6. Acquisition of skill and experience in administrative work and knowledge of management levels 7. Understanding electronic management, the role of networks, the development in management and its role in the survival of any organization 8. Be able to know the administrative handling and its importance to the work of engineers and the work of a successful management model 9. The development of the student's ability to dialogue and discussion 10. The development of the student's ability to commit to performing homework within groups and to deliver on time to apply the principles of management
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Understanding management and its types 2. Stages of development of administration and its schools 3. Acquisition of knowledge of administrative work and knowledge of management levels 4. The importance of using management principles to manage any project in all medical, engineering and other specializations 5. Gaining knowledge of administrative dealings, its levels, and the importance of the leader 6. The importance of electronic management and benefit from the development in management
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p>Basic concepts of management, its types and elements [2 hours] Identifying the difference between administrative and executive work, types of management and manager levels [2 hours] Historical development and schools of management thought Director roles and its development [2 hour], knowing the difference between the two departments [1 hour], sub-administrative functions in public administration, and the concept of the system [1 hours], centralization and decentralization of the organizational structure and the difference between them, planning and its types [2 hours] Authority and responsibility Leadership theories and leadership behavior patterns [2 hours], preparing a report [2 hour], electronic management and obstacles [2 hours]</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that you will adopt in presenting this unit is to develop students' skills in research and familiarity with the concept of management and its importance. It has a curriculum in all areas of life and its importance, levels and administrative, and the reason for career progression and the reasons for an administrative model for students to present different topics related to their specialization and write a report on the view of automation in the fields of engineering. homework way
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Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	30	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب اسبوعيا	30/15=2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	20	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب اسبوعيا	45/15=1
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	50		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1,2,3 and 5,6,7
	Assignments				
	Projects	1	10% (10)	15	-
	Report	2	10% (10)	12	LO # 1,3,4 and 5
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1,7,8 to 12
	Final Exam	3hr	60% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to concept of management and its importance and elements
Week 2	Identify the types of management, their levels and skills, the manager and his levels, and the functions related to management
Week 3	Historical development and schools of administrative thought Director roles
Week 4	The difference between public administration and business administration
Week 5	Sub-administrative jobs in the public administration
Week 6	The concept of the system and its components
Week 7	Centralization and decentralization of the organizational structure and the difference between them
Week 8	Learn about planning and its importance in any business
Week 9	The concept of decision-making, its importance, the factors affecting it and its patterns
Week 10	
Week 11	Authority and responsibility Leadership theories and leadership behavior patterns
Week 12	Differentiate between e-business, e-management and e-government
Week 13	Types of networks used and elements of electronic management
Week 14	The importance of electronic administration and the networks used
Week 15	Obstacles to electronic management
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي المختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Management Principles / Dr. Shawqi Najj Jawad Business Administration Principles / Dr. Khalil Al-Shamaa : Dr. Ahmed Al-Shammari & others, Principles of Business Administration, Obeikan Library. . Assistant Professor Alaa Daham Hamad Principles of Administration University of Baghdad / College of Administration and Economics Electronic management / Raafat Radwanhttp://www.diwanalarab.com	No
Recommended Texts		No
Websites	"Business Management", www.encyclopedia.com, Retrieved 2018-4-8. Edited. 2. ↑ "management", www.businessdictionary.com, Retrieved 2018-4-8. Edited by Agadir Al- Aidarous, Introduction to Management 4. ↑ Omar Dora, Introduction to Management. Kimberlee Leonard (3-13-2018), "Five Functions of Management & Leading", smallbusiness.chron.com, Retrieved 4-12-2018. Edited. Muhammad Bakri Abdel-Aleem (2007), Principles of Business Administration, Egypt: Benha University. "Importance of Management", www.managementstudyguide.com, Retrieved 8-12- 2018. Edited 8. "6 Types of Management Styles", online.grace.edu, Retrieved 9-11- 2018. Edited 9. "Levels of Management", www.managementstudyguide.com, Retrieved 8-12-2018.	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جداً	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	متبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (فقد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Anatomy		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO305		
ECTS Credits	6.00		
SWL (hr/sem)	150		
Module Level	2	Semester of Delivery	
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Shukur Ramadhan	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحفوظات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. The aim of this module is to enable the student to develop an understanding of the structure, location and function of the systems of the human body, and their relationship to each other. 2. Knowledge of the natural structure, organs and internal structures of the human body and their locations and connections Through anatomy and other means such as gypsum and plastic models and showing educational films / X-rays and magnetic resonance imaging
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. learning achievements for students, stating what it is the student should be able to demonstrate at the end of a period of learning. Module level learning outcomes should be capable of being assessed and easily understood by the student 2. Teaching and learning the superficial anatomical signs of the body that indicate the locations of bones and muscles Tendons, blood vessels, nerves and other internal organ 3. To link basic anatomy a with manifestations of pathological conditions to reach a diagnosis the correct 4. Understanding the methods of research, recitation, discussion, and the development of intellectual abilities 5. Enabling students to obtain knowledge and understanding of the intellectual and skill framework 6. Enabling students to obtain knowledge and understanding of the ethics of the student's profession 7. Enable students to obtain knowledge and understanding of anatomy 8. Learn dialogue and discussion 9. The ability to work together and the ability to deliver and present and to use the computer and the Internet 10. Understanding and knowing the functions of the members accurately and knowing the pathological conditions to reach the correct diagnosis .11. Studying health problems and their impact on the health and effectiveness of members. 12. Knowledge of blood, blood and serological tests to help diagnose diseases 13. Evaluating and analyzing the different methods of infection control and determining the most appropriate for each disease case B3 14. Evaluation of all pharmacological treatments, whether indicative or applied 15. The ability to think scientifically and the ability to imitate creativity The ability to interpret scientific phenomena, workshops and activities The ability to invent new scientific methods for treatments and put forward new ideas
Indicative Contents	indicative content

<p>المحتريات الإرشادية</p>	<p>Perinatal development, genetic influences, physiological adaptations at birth and homeostasis. Normal anatomy and physiology of major body systems Concepts of disease processes Physiology and pathophysiology of diseases and systems</p> <p>This module is delivered over one academic term. The above skills acquisition, contributes to the development of the UWS Graduate Attributes : Universal - critical thinking, analytical, inquiring, collaborative, research-minded and socially responsible; Work Ready - knowledgeable, digitally literate, effective communicator, motivated, potential leader; and Successful - autonomous, incisive, creative, resilient and daring.</p> <ul style="list-style-type: none"> • Enhance students understanding of anatomy and physiology of major body systems • Enhance students understanding of the pathological processes in common conditions • To enable enhance understanding of the relevance of findings from clinical examination
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<p style="text-align: center;">Learning and Teaching Strategies استراتيجيات التعلم والتعليم</p>	
<p>Strategies</p>	<p>Giving lectures in the form of Power Point, showing educational films, using plaster and plastic models, various anatomical sections of the brain, X-ray and magnetic resonance films, and student participation during discussions during teaching in small groups in practical laboratories Students' participation in interactive lectures in theoretical and practical lessons Lectures with discussions.</p> <ol style="list-style-type: none"> 1.White seborh 2.Projector device 3. Students participate in small groups 4. Students' interactive participation during the lecture 5. Using computers and the Internet to keep communicating with the progress of scientific knowledge in human anatomy

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	100	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	6.6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	50	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	3.3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation					
تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	7	15 % (15)	2,3,4,6,8,9,11	LO # 10,11,12,13,14,15
	Assignments	-	-	-	-
	Projects / Lab.	1	15% (15)	Continuous	All
	Report / Seminar	1	10% (10)	13	LO # 4,5,6,7,8,9
Summative assessment	Midterm Exam	2 hr	10% (10)	5.10	LO # 1-2-3
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to anatomy Descriptive anatomy, skin, fascia, bones
Week 2	Muscles & Joints
Week 3	Blood & Lymph vessels Radiological Anatomy Bones of the shoulder region

Week 4	Joints of shoulder girdle & its muscles
Week 5	Mid-Term Theoretical Exam
Week 6	Arm bones & Muscles axilla & brachial plexus
Week 7	Forearm bones & muscles Elbow joint & Cubital fossa
Week 8	Skeleton & Structure of the hand (Bones, Joints & muscles)
Week 9	The hip bone, The gluteal region (Muscles origin, action, insertion, Blood supply, nerve supply)
Week 10	Femur bone& (Muscles, origin, action, insertion, Blood supply, nerve supply)
Week 11	Knee joint & popliteal fossa
Week 12	Mid-Term Theoretical Exam
Week 13	the leg tibia and fibula (Muscles, 5 origin, action, insertion, Blood supply, nerve supply)
Week 14	The Foot (Bone & Muscles)
Week 15	Ankle joint & arches of the foot
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المناهج الأسبوعي للمختبر	
	Material Covered
Week 1	Introduction to anatomy Descriptive anatomy, skin, fascia, bones
Week 2	Muscles & Joints
Week 3	Blood & Lymph vessels Radiological Anatomy Bones of the shoulder region
Week 4	Joints of shoulder girdle & its muscles
Week 5	Mid-Term Theoretical Exam
Week 6	Arm bones & Muscles axilla & brachial plexus
Week 7	Forearm bones & muscles Elbow joint & Cubital fossa
Week 8	Skeleton & Structure of the hand (Bones, Joints & muscles)
Week 9	The hip bone, The gluteal region (Muscles origin, action, insertion, Blood supply, nerve supply)
Week 10	Femur bone& (Muscles, origin, action, insertion, Blood supply, nerve supply)
Week 11	Knee joint & popliteal fossa
Week 12	Mid-Term Theoretical Exam
Week 13	the leg tibia and fibula (Muscles, 5 origin, action, insertion, Blood supply, nerve supply)
Week 14	The Foot (Bone & Muscles)

Week 15	Ankle joint & arches of the foot

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Clinical Anatomy by regions. Richards Snell.eighth edition. 2-Clinical Neuroanatomy. Richards Snell. seventh edition	Yes
Recommended Texts		No
Websites		

Grading Scheme				
مخطط الدرجات				
Group	Grade	التعبير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX -- Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F -- Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	MATH IV		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO304		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	2	Semester of Delivery	4
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture :Mohammed Shaheen	e-mail	
Module Leader's Acad. Title	Associate Professor	Module Leader's Qualification	Lecture
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	MATH III	Semester	3
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To develop problem solving skills and understanding of Matrices. 2. To understand the determinants, adjoint, transpose, and inverse of matrix. 3. To explain and solve the set of linear equations using matrix. 4. This course deals with the basic concept of complex numbers. 5. To clarify the important vector analysis and vector operations. 6. Explain the Fourier series of function.
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Define the matrices and their determinants, adjoint, transpose, and inverse. 2. Understanding the Eigen Values and Eigen Vectors. 3. Explaining the Solution of set of linear equations using matrices. 4. Understanding the basic concept of complex numbers. 5. Discuss the complex numbers' operations, complex numbers' logarithm and exponential. 6. Understanding the Inverse of Laplace transforms and their methods of solution. 7. Explain the Cauchy-Riemann's Equation in for complex numbers. 8. Understanding the basic concept of vectors analysis. 9. Identify the vector, scalar, and planes. 10. Explaining the Fourier series of function.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Matrices and Determinants [4 hrs] Adjoint and Transpose of matrix [4 hrs] Inverse of matrix [4 hrs] Eigen Values & Eigen Vectors [5 hrs] Solution of set of linear equations [5 hrs] Complex Numbers [4 hrs] Complex Numbers Operations [4 hrs] Cauchy-Riemann's Equation [5 hrs] Vector Analysis [4 hrs] Vectors, Scalars, and Planes [4 hrs] Vectors Operations [5 hrs] Fourier Series [5 hrs]</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.
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Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	58	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	67	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	4.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	10	10% (10)	Continuous	All
	Assignments	5	10% (10)	Continuous	All
	Projects	1	10% (10)	Continuous	All
	Report	-	-	-	-
Summative assessment	Midterm Exam	2 hr	20% (20)	10	LO # 1-10
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Matrices and Determinants
Week 2	Adjoint and Transpose of matrix
Week 3	Inverse of matrix
Week 4	Eigen Values & Eigen Vectors
Week 5	Eigen Values & Eigen Vectors
Week 6	Solution of set of linear equations
Week 7	Solution of set of linear equations
Week 8	Complex Numbers
Week 9	Complex Numbers Operations
Week 10	Cauchy-Riemann's Equation
Week 11	Mid-Term Exam
Week 12	Vector Analysis
Week 13	Vectors, Scalars, and Planes
Week 14	Vectors Operations
Week 15	Fourier Series
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي المختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Advance Engineering Mathematics, Erwin Kreyszig, 10th ed., John Wiley & Sons, Inc., 2011.	Yes
Recommended Texts	Advance Engineering Mathematics, Erwin Kreyszig, 10th ed., John Wiley & Sons, Inc., 2011.	No
Websites	-	

Grading Scheme مخطط الدرجات				
Group	Grade	تقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (يبد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Physics		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO203		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	Semester of Delivery	
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: mohammed Abdul Qadir	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name			
Scientific Committee Approval Date	12/2025	Version Number	4.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Blomaterial POER220	Semester	4
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. To understand basics for physics 2. To understand theoretical and practical on the various branches of physics and their development in all its types and applications. 3. To Give students the tool for Universal forces Units and physics Quantities 4. To Know the basics for analysis and solve specific problems 5. To learn the general law and application of physics
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Introduction and Physical Quantities and Units 2. Mechanics and laws for each types of motion 3. Thermodynamics and law 4. Basic of vibration and types of wave , 5. Electric and magnetic fields and equations for each terms 6. The differences between classic and modern physics 7. Laser and optics and application 8. Types of material physics and general properties 9. Sound and light
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p>Physics Definitions , Applications , Quantities and Units [10 hrs],Mechanics , Motion in One and two Dimension , Vectors,The Laws of Motion[10 hrs] , Energy ,work ,Thermodynamics , Thermal Physics , Energy in Thermal Processes , The Laws of Thermodynamics [8hrs],Vibrations and types of Waves [10 hrs], Electricity and Magnetism ,Electric Forces and Electric Fields</p> <p>Electrical Energy and Capacitance , Current and Resistance[10 hrs] , Direct-Current Circuits Magnetism[10 hrs], Light and Optics , Reflection and Refraction of Light , The Nature of Light ,[10hrs] The Law of Refraction and total Internal Reflection, Dispersion and Prisms[10hrs], Mirrors and Lenses and Wave Optics[10hrs], Optical Instruments</p> <p>Modern physics Material physics [10 hrs] modern physics and class[8 hrs], momentum ,impuls and torque [6 hrs], unit cell , primitive cell,types of bond miller indices[10 hrs]</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to develop students in orthotics and prosthetic engineering field, application of different types of physics. This will be achieved through classes, interactive tutorials, asking questions, discussions and seminars in class and homework ..
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	114	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	7.5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	4.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1,2, 4 and 5
	Assignments	4	15% (15)	2,4,6,8,	LO # 3,6,9 and 7
	Projects	-	-	-	-
	Report	1	10% (10)	14	LO # 7 and 8
Summative assessment	Mldterm Exam	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

مفردات المنهج المحدثة من لجنة تطوير المنهاج

	Material Covered
Week 1	What is Physics? , Definitions and Applications
Week 2	Mechanics , Motion In One Dimension , Vectors and Two-Dimensional Motion , The Laws of Motion
Week 3	Energy ,work , Momentum ,torque and Collisions , Rotational Motion, Rotational Equilibrium and the Law of Gravity ,7 Solids and Fluids
Week 4	Thermodynamics , Thermal Physics
Week 5	Vibrations and Waves
Week 6	Electricity and Magnetism
Week 7	Light and Optics
Week 8	Optical Instruments
Week 9	Modern physics
Week 10	relativity , Quantum physics
Week 11	Material physics
Week 12	crystal and amorphous material,types of material
Week 13	unit cell , primitive cell,types of bond
Week 14	millier indices
Week 15	Report
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المناهج الاسبوعي للمختبر	
في حالة وجود مختبر ... نرصد التجارب	
	Material Covered
Week 1	HOOKE'S LAW spring
Week 2	Acceleration of free fall by mean of the Simple pendulum
Week 3	Forces
Week 4	The surface tension of water by the pull of microscope slide
Week 5	Refractive index of (glass) by real and apparent depth using traveling microscope
Week 6	Moment of inertia and angular acceleration
Week 7	7-corrosion. (corrosion strument)

Learning and Teaching Resources

مصادر التعلم والتدريس		
	Text	Available In the Library?
Required Texts	University Physics, Seventh Edition (Sear / Zemasky / Young 2019	No
Recommended Texts	Practical of physics	No
Websites		

Grading Scheme				
مخطط الدرجات				نقطة تدوير كلاس
Group	Grade	التفصيل	Marks (%)	Definitlon
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (نقد المراجعة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Math II		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO201		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Mohammed Shaheen	e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	Lecture
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	MATH I	Semester	1
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To develop problem solving skills and understanding of different types of unlimited integrals. 2. To understand the difference between the different types of functions such as logarithms, exponential, inverse functions, and hyperbolic. 3. Use the other types of Integral's concepts to understand the behavior of function in form of function integrations. 4. This course deals with the basic concept of integrations and a brief introduction to matrices. 5. To clarify the important types of integrals such integration by parts, partial fractions integrals, and numerical integrals.
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Define the inverse function and its derivative. 2. Understanding the natural logarithms and exponential. 3. Identify the inverse of trigonometric functions and hyperbolic functions. 4. Discuss the integration by parts. 5. Explaining the meaning of trigonometric integrals and trigonometric substitutions. 6. Understanding the integration of Rational Functions by Partial Fractions. 7. Discuss the basic approach of numerical integrals. 8. understanding the different types of matrices and matrix algebra. 9. Explain the applications matrix determinants and solving set of equations.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Inverse Functions and Their Derivatives [4 hrs] Natural Logarithms [4 hrs] Exponential Functions [4 hrs] Inverse Trigonometric Functions [5 hrs] Hyperbolic Functions [5 hrs] Integration by Parts [4 hrs] Trigonometric Integrals [5 hrs] Trigonometric Substitutions [5 hrs] Integration of Rational Functions by Partial Fractions [4 hrs] Mid Term Exam Numerical Integration [4 hrs] Introduction to Matrix [4 hrs] Matrix Algebra [4 hrs] Finding the Determinants [4 hrs] Finding the Matrix Inverse and Solving Set of Equations [4 hrs]</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	86	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب اسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	64	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب اسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	8	10% (10)	Continuous	All
	Assignments	5	10% (10)	Continuous	All
	Projects	1	10% (10)	Continuous	All
	Report	-	-	-	-
Summative	Midterm Exam	2 hr	20% (20)	10	LO # 1-9

assessment	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Inverse Functions and Their Derivatives
Week 2	Natural Logarithms
Week 3	Exponential Functions
Week 4	Inverse Trigonometric Functions
Week 5	Hyperbolic Functions
Week 6	Integration by Parts
Week 7	Trigonometric Integrals
Week 8	Trigonometric Substitutions
Week 9	Integration of Rational Functions by Partial Fractions
Week 10	Mid Term Exam
Week 11	Numerical Integration
Week 12	Introduction to Matrix
Week 13	Matrix Algebra
Week 14	Finding the Determinants
Week 15	Finding the Matrix Inverse and Solving Set of Equations
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي المختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	

Week 6	
Week 7	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Thomas' Calculus I Maurice D. Weir, Joel Hass, George B. Thomas.-12th Ed.	Yes
Recommended Texts	Thomas' Calculus I Maurice D. Weir, Joel Hass, George B. Thomas.-12th Ed.	No
Websites	-	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX -- Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F -- Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Programming		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO205		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	1	Semester of Delivery	1
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: younus Farooq		e-mail
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Lecture
Module Tutor			
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module			
Co-requisites module			

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. Learn about writing vectors and matrices using MATLAB. 2. Learn about programming using different functions in MATLAB. 3. Familiarity with two- and three-axis drawing using MATLAB. 4. Identify the functions of reflection, zoom in and out using MATLAB.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Learn about programming using MATLAB. 2. Identifying MATLAB programming applications by linking them to practical reality. 3. Identifying in detail the use of MATLAB functions and linking them to case studies in the department's specialization.
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p>Introduction, MATLAB Windows, Priority in Operations Mathematics. [7 hrs]</p> <p>Numbers Types, Variables Names, Vectors. [5 hrs]</p> <p>Matrices – Two-Dimensional Array part1, Matrices – Two-Dimensional Array part2 [7 hrs]</p> <p>Script files, Function program, Scripts vs. Functions, if condition, For statement, While statement, The derivative of polynomial equation. Part1, The derivative of polynomial equation.part2, The integral of polynomials equations, Two Dimensional Plots part1, Two Dimensional Plots part2. [9hrs]</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	<p>The course description provides a full explanation of the basics of programming using MATLAB, in addition to identifying the special and important functions in the application of MATLAB, which serve the specialization of the section from the functions of drawing, rotation, zooming in, zooming out and reflection, all the way to learning programming in order to achieve the goal in integrating the design process with programming. This will be achieved through classes, interactive tutorials ,asking questions ,discussions and solving samples of problems in class and homework .</p>

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	72	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	72/15=4.8
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	28	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	28/15=1.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1,2, 4 and 5
	Assignments	4	10% (10)	2,4,6,8,	LO # 3,6,9 and 10
	Projects	-	-	-	-
	Report (lab)	5	15% (15)	2,4,6,10,12	LO # 2,6,10 and 11
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to MATLAB language,
Week 2	Format and numbers, Variables
Week 3	Matrix building I
Week 4	Matrix building II
Week 5	Programming in MATLAB using M file,
Week 6	Programming by create script-file, Programming by create function-file.
Week 7	Logical commands I
Week 8	Midterm Examination 1
Week 9	Logical commands II
Week 10	Loops I
Week 11	Loops II
Week 12	Conditional commands I
Week 13	Conditional commands II
Week 14	Midterm Examination 2
Week 15	
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to MATLAB System
Week 2	MATLAB Vector, Matrices, Special Functions, Commands Logical and comparison
Week 3	Programming in MATLAB
Week 4	Condition statements and looping
Week 5	polynomial equation
Week 6	Plotting (2D,3D)
Week 7	Representing two-dimensional geometric shapes

Learning and Teaching Resources		
مصادر التعلم والتدريب		
	Text	Available in the Library?
Required Texts	Lee, H., " Programming and Engineering Computing with MATLAB 2017", SDC publication, September,2017. -	No
Recommended Texts	Hunt, B. R., Lipsman, R. L., and Rosenberg, J. M., " A Guide to MATLAB for Beginners and Experienced Users", Cambridge University Press,2001.	Yes
Websites	https://www.mathworks.com/MATLABcentral	

Grading Scheme				نقطه بنوع
مخطط الدرجات				
Group	Grade	تقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX -- Fail	راسب (في المعالجة)	(45-49)	More work required but credit awarded
	F -- Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Dynamics		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO202		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	1	Semester of Delivery	2
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture: Hendren Ali Saber	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To Introduce and understand the basics of Dynamics Engineering Mechanics, and to provide students with the basic skills to analyse dynamics from first principles, contextualized to the human body. 2. To understand the areas of dynamic analysis, as appropriate for prosthetics and orthotics engineering applications. 3. To introduce the concepts of position, displacement, velocity, and acceleration. 4. To study particle motion along a straight line and represent this motion graphically. In addition, to investigate particle motion a long curved path using different coordinate systems. 5. To develop the principle of work and energy and apply it to solve problems that involve force, velocity, and displacement. 6. To introduce a method for determining the moment of Inertia for an area and the product of inertia and show how to determine the maximum and minimum moments of inertia for an area.
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Demonstrate knowledge and understanding of the dynamics of particles and bodies related to the limbs and motion of human 2. Resolve the motion of single particles in multiple coordinate systems, 3. Ability to form the relationship between displacement, velocity and acceleration, 4. Demonstrate the motion of multiple particles in constrained motion, 5. Use the equations of motion to compute the position, velocity, and acceleration of multiple points on rigid bodies in constrained motion, 6. Apply the basic concepts of force, mass and acceleration; of work and energy; and impulse and momentum for particles and rigid bodies. 7. Discuss a method for determining the moment of inertia for an area and the product of inertia. 8. Apply the knowledge and tools of dynamics to solve engineering problems (related to P&O), and Explain knowledge to peers through hand-written problem sets, verbalization, and writing.
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p>Basic concepts the basics of dynamics Engineering Mechanics [6 hrs] study particle motion along a straight line and represent this motion graphically and investigate particle motion along a curved path using different coordinate systems [8 hrs] Analyze the accelerated motion of a particle using the equation of motion with different coordinate systems [7 hrs] Solving problems and homework [9 hrs] Study and solve problems that involve work, energy, power and efficiency [8 hrs] Discuss applications of the planar kinetic equations of motion to bodies undergoing translation, rotation about a fixed axis, and general plane motion [8 hrs] Recognize the moment of inertia and the mass moment of inertia [7 hrs].</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to provide the student with a clear and thorough presentation of the theory and application of engineering mechanics Dynamics and be familiar with analyzing, manipulating and solving problems related to Prosthetics and the prosthetics field. This will be achieved through classes, interactive tutorials, asking questions, discussions and solving samples of problems in class and homework.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	72	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	53	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	4, 8	LO #1,2, 4 and 7
	Assignments	4	15% (15)	2,4,6	LO # 3,5,6 and 8
	Projects	-	-	-	-
	Report	1	10% (10)	14	LO # 6 and 8
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 2 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Introduction to Dynamics and Basic Concepts
Week 2	Newton's Laws
Week 3	Kinematics of Particles
Week 4	Rectilinear Motion
Week 5	Solving Problems
Week 6	Plane Curvilinear Motion
Week 7	Rectangular Coordinates (x-y)
Week 8	Normal and Tangential Coordinates (n-t)
Week 9	Kinetics of Particles I
Week 10	Kinetics of Particles II
Week 11	Relative Motion (Translating Axes)
Week 12	Relative motion
Week 13	Plane Kinematics of Rigid Bodies
Week 14	Plane Kinetics of Rigid Bodies
Week 15	Area Moments of Inertia
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي المختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Engineering Mechanics: Dynamics Mareim 4 th or 5 th Edition	Yes
Recommended Texts	1. Engineering mechanics Dynamics, Hibbler 2. Biomechanics of human body, Susan Hill	No
Websites	None	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Biomaterials		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO401		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	2	Semester of Delivery	4
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Lecture:	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name			
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	bonimpiant POER422	Semester	8
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To understand types of biomaterial in medical Sciences 2. To identify the types of experimental 3. To distinguish the general properties of different types of biomaterial 4. To perform different test of biomaterial 5. To learn the method of composit material ,properties and application 6. To learn the mothd of manufacturing of different types of biomaterial 7. To learnm the method of heat treatment .
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Introduction and general properties of biomaterial 2. Synthetic Biomaterials 3. Types of biomaterial 4. Plastic Materials for External ,Internal Prosthesis and Orthoses 5. Types testing of biomaterial 6. Analysis of teasting 7. Mechanisms of Corrosion 8. elastic and plastic deformation 9. Heat treatment methods 10. Application biomaterial in himanbody
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p>Useful Definitions of Biomaterials and Requirements of Biomaterials [7 hrs]</p> <p>Properties of Biomaterials,Synthetic Biomaterials[8hrs]</p> <p>Where do the differences between (bio-)materials come from [8 hrs]</p> <p>types of biomaterial and method of manufacturing [7hrs]</p> <p>Relation between polarization ,resstance of polarization and biocompatboly [8 hrs]</p> <p>Heat trerment , Plastic Materials for External ,Internal Prosthesis [8 hrs]</p> <p>Corrosion and Biocompatibility of Orthopedic Implants [7 hrs]</p> <p>Mechanisms of Corrosion [7 hrs]..</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	
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	The main strategy that will be adopted in delivering this module is to develop students in orthotics and prosthetic engineering field, application of different types of biomaterial. This will be achieved through classes, interactive tutorials, asking questions, discussions and seminars in class and homework ..
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Student Workload (SWL) الحمل الدراسي للطالب محسوب له ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	58	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3.8
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1,2, 4 and 5
	Assignments	4	15% (15)	2,4,6,8,	LO # 3,6,9 and 10
	Projects	-	-	-	-
	Report	1	10% (10)	14	LO # 7 and 8
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
	Material Covered
Week 1	Biomaterials (definitions, history, and importance)

Week 2	Requirements of Biomaterials
Week 3	Properties of Biomaterials
Week 4	Synthetic Biomaterials (first, second ,third and fourth generation) types and application
Week 5	Effect of bonding energy on the mechanical and physical properties (melting temperature, thermal expansion and elastic modulus).
Week 6	Types of Biomaterials (Polymeric, Ceramic, Metallic, Composite), Smart metallic
Week 7	General properties, Manufacturing ,and application of (Polymeric, Ceramic, Metallic, Composite)
Week 8	Glass ceramic , General properties ,Manufacturing ,and application
Week 9	Carbon types(CNT,C Fiber) and applications
Week 10	Elastic and Plastic deformation, Plastic Materials application for External, Internal Prostheses and Orthoses,
Week 11	Testing Biomaterials (Biological, Microstructure ,Mechanical)
Week 12	Heat treatment (annealing, centering, milting
Week 13	Corrosion of metallic implants
Week 14	Mechanisms of Corrosion
Week 15	effect factors corrosion behavior of an implant
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المناهج الأسبوعي للمختبر	
في حالة وجود مختبر ... توضع التجارب	
	Material Covered
Week 1	1- surface modification of metal mechanical and chemical (grinding ,polishing,eaching)
Week 2	2-melting and mixing biomaterial powder +binder.(magnetic stiear)
Week 3	3-powder metallurgy.
Week 4	4-preparation of biomaterial specimens.
Week 5	5-microstructure examination .(optical microscope)
Week 6	6-preparation of body solution.(magnetic stiear)
Week 7	7-corrosion. (corrosion strument)

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?

Required Texts	Material science and engineering William D.callister 2012.	No
Recommended Texts	Biomaterials in Orthopedics Michael. Yaszemski ,Debra J. Trantolo 2014	No
Websites	https://www.biomaterial	

Grading Scheme مخطط الدرجات				
Group	Grade	التعبير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	متبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (فقد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Analytical Biomechanics		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6PO402		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	3	Semester of Delivery	6
Administering Department	09	College	03
Module Leader	Lecture	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	POER221	Semester	4
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To perform motion analysis using different methods 2. To compute parameters of human body segments 3. To analysis kinematics of human movements 4. To analysis kinetics of human segments 5. To modeling human body for different activities 6. To analysis biomechanics of amputation
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Developing skills in analyzing motion using graphical and numerical methods 2. Performing video analysis using video motion tools 3. Computing physical and mechanical properties of human body segments 4. Learning the lump analysis for kinematic of movements 5. Modeling of human body dynamics 6. Calculating power and energy of human due to walking and other movements 7. Performing impulse analysis of human impact 8. Skills in design of prosthesis socket 9. Applying biomechanics skills for different types of amputees and deformity
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p>Basic definitions and graphical and analytical analysis of motion [6 hrs]</p> <p>Video motion analysis using key images and central difference methods with solved problems [6 hrs]</p> <p>Human body segment parameters calculation using anthropometry tables for single segment and multi segments with applications of solving problems [6 hrs]</p> <p>Lump analysis and kinematics of human movements [7 hrs]</p> <p>Planner motion of human body segments and dynamic analysis with solved problems [8 hrs]</p> <p>Work ,energy and power calculations of human walking and other daily activities [6 hrs]</p> <p>Biomechanics of lower limbs and upper limb and stump ,force anialysis of socket and orthosis ,design of socket for comfort[7 hrs] ..</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to develop students in Biomechanics skills and be familiar with analyzing kinematics and kinetic of human motion for normal and amputees .This will be achieved through classes, discussions ,asking questions , and solving samples of problems in class and homework ,as well as practical skills due to performing experiments in labs .

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطلاب خلال الفصل	72	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	4.8
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطلاب خلال الفصل	53	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	3.5
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1,2, 4 and 5
	Assignments	4	15% (15)	2,4,6,8,	LO # 3,6and 9
	Projects	-	-	-	-
	Report	1	10% (10)	14	LO # 8 and 9
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
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المناهج الأسبوعي النظري	
	Material Covered
Week 1	Motion Analysis Graphical method
Week 2	Motion Analysis Analytical method
Week 3	Human Body Segment Parameters and Anthropometry
Week 4	The Lump analysis Method I
Week 5	The Lump analysis Method II
Week 6	Planner Analysis Method I
Week 7	Planner Analysis Method II
Week 8	Internal Forces and physical stress
Week 9	Impulse and Momentum and Crash Mechanics
Week 10	motion analysis computer software (KINOVEA)
Week 11	Biomechanics of amputee
Week 12	Biomechanics of socket
Week 13	Biomechanics of Bracing and Orthosis
Week 14	Biomechanics devices and instrumentation
Week 15	Gait analysis
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المناهج الأسبوعي المختبر	
	Material Covered
Week 1	Measuring of human joint angles and ROM
Week 2	Video motion analysis using treadmill
Week 3	Measuring of human body mass center
Week 4	Anthropometry of human body
Week 5	Measuring of human gait cycle parameters
Week 6	
Week 7	

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available In the Library?
Required Texts	Human Body Dynamics Classical Mechanics and Human Movement, Aydın Tözzeren,2010	Yes
Recommended Texts	1. Dynamics of human gait ,2ed,Brain L Davis,2009 2. Fundamental of Biomechanics ,2 ed, Duane Knudson ,2015	No
Websites	https:// isbweb.org	

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب (تيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Prostheses II		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input checked="" type="checkbox"/> Seminar
Module Code	POER311		
ECTS Credits	8		
SWL (hr/sem)	200		
Module Level	3	Semester of Delivery	5
Administering Department	09	College	03
Module Leader	Assist Prof. Saif M. Abbas		e-mail saif.mohammed@nahrainuniv.edu.iq
Module Leader's Acad. Title	Assist Professor	Module Leader's Qualification	Ms.C.
Module Tutor		e-mail	
Peer Reviewer Name	Dr.Mahmud Rasheed Ismail	e-mail	Muhmood.rashed@nahrainuniv.edu.iq
Scientific Committee Approval Date	03/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Prosthetic I	Semester	3
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> 1. To understand types of upper limb amputation 2. To identify the types of upper prosthesis 3. To distinguish between levels of amputation 4. To perform the type of Components Sockets, Suspension and Hand. 5. To proper Alignment for each type of upper prosthesis 6. To understand the experimental procedure for lower limb prosthesis
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> 1. Identify the types of upper extremities 2. Identify the types of hand , wrist, elbow and shoulder joint 3. Learning the types of socket 4. Learning the types of suspension 5. Learning the types of amputation 6. Performing the components of prosthetic device 7. Performing the Alignment of prosthesis 8. Learning the biomechanics Socket and Socket Shape Variations 9. Learning the smart Prosthesis 10. Understanding Experimental manufacturing of prosthesis
<p>Indicative Contents المحتويات الإرشادية</p>	<p>Indicative content includes the following.</p> <p>Upper limb prosthetic anatomy and Biomechanics , Terminal Devices, Voluntary Hooks and Hands [2 hrs]</p> <p>Wrist, Elbow and Shoulder Units, Type of Suspension Methods [6 hrs] Prosthetic Options for The Partial Hand Amputee, Components of The Hand and Wrist Disarticulation Prosthetic, Prosthetic Options for The Transradial Amputee [8 hrs]</p> <p>Prosthetic Options for The Trans humeral Amputee [6 hrs] Prosthetic Options for The Elbow Disarticulation Amputee [4 hrs] Prosthetic Options for The Shoulder Disarticulation and Forequarter Amputee, Biomechanics Socket and Socket Shape Variations and materials [6 hrs] Introduction to smart Prosthesis[2 hrs]</p> <p>Optimization of socket materials, Dual limb amputation [6 hrs]</p> <p>Spatial prosthesis for children and olds [4 hrs]</p> <p>..</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted in delivering this module is to learn students in upper limb prosthesis levels and be familiar with level of amputation ,type of joint for wrist, elbow and shoulder and learn the stages of experimental procedure for each level of amputation .This will be achieved through classes, interactive tutorials ,asking questions ,discussions and solving samples of problems in class and Homework

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب له ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	128	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	8.5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	15% (15)	2,4,6,8,10	LO #1,3, 6,10 and 12
	Assignments	2	15% (15)	4,8	LO # 3,7,9 and 10
	Projects	-	-	-	-
	Report	1	10% (10)	14	LO # 7 and 9
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Upper limb prosthetic anatomy and Biomechanics
Week 2	Terminal Devices, Voluntary Hooks and Hands
Week 3	Wrist, Elbow and Shoulder Units
Week 4	Type of Suspension Methods
Week 5	Prosthetic Options for The Partial Hand Amputee
Week 6	Components of The Hand and Wrist Disarticulation Prosthetic
Week 7	Prosthetic Options for The Transradial Amputee
Week 8	Prosthetic Options for The Trans humeral Amputee
Week 9	Prosthetic Options for The Elbow Disarticulation Amputee
Week 10	Prosthetic Options for The Shoulder Disarticulation and Forequarter Amputee
Week 11	Biomechanics Socket and Socket Shape Variations and materials
Week 12	Introduction to smart Prosthesis
Week 13	Optimization of socket materials
Week 14	Dual limb amputation
Week 15	Spatial prosthesis for children and olds
Week 16	

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Measurement ,Manufacturing and Alignment of Below Elbow Prosthesis Test.
Week 2	Measurement ,Manufacturing and Alignment of Below Elbow Prosthesis Test.
Week 3	Measurement ,Manufacturing and Alignment of Below Elbow Prosthesis Test.
Week 4	Measurement ,Manufacturing and Alignment of Though Elbow Prosthesis Test.
Week 5	Measurement ,Manufacturing and Alignment of Though Elbow Prosthesis Test.
Week 6	Measurement ,Manufacturing and Alignment of Though Elbow Prosthesis Test.
Week 7	Measurement ,Manufacturing and Alignment of Above Elbow Prosthesis Test.
Week 8	Measurement ,Manufacturing and Alignment of Above Elbow Prosthesis Test.

Week 9	Measurement ,Manufacturing and Alignment of Above Elbow Prosthesis Test.
Week 10	Measurement ,Manufacturing and Alignment of Hip Disarticulation Prosthesis Test.
Week 11	Measurement ,Manufacturing and Alignment of Hip Disarticulation Prosthesis Test.
Week 12	Measurement ,Manufacturing and Alignment of Hip Disarticulation Prosthesis Test.
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	<ul style="list-style-type: none"> Prosthetics and orthotics / Donald Shurr, John W. Michael. Short Textbook of Prosthetics and Orthotics Amputation, Prosthesis Use, and Phantom Limb Pain An Interdisciplinary Perspective 	No
Recommended Texts	Cambodian School of Prosthetics and Orthotics.	No
Websites		

Grading Scheme

مخطط الدرجات

Group	Grade	التفسير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (يبدى المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Electronics			
Module Title	Electronics		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	UOKTB6P0404		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level	2	Semester of Delivery	
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	e-mail		
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor	e-mail		
Peer Reviewer Name	e-mail		
Scientific Committee Approval Date	12/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. To develop problem solving skills and understanding of circuit theory through the application of techniques. 2. To understand voltage, current and power from a given circuit. 3. This course deals with the basic concept of electrical circuits. 4. This is the basic subject for all electrical and electronic circuits. 5. To understand Kirchoff's current and voltage Laws problems. 6. To perform mesh analysis. 7. To understand Diodes and Transistors perform. 8. This course deals with the basic concept of Electronic filters
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Recognize how electricity works in electrical circuits. 2. List the various terms associated with electrical circuits. 3. Summarize what is meant by a basic electric circuit. 4. Discuss the reaction and involvement of atoms in electric circuits. 5. Describe electrical power, charge, and current. 6. Define Ohm's law. 7. Identify the basic circuit elements and their applications. 8. Discuss the operations of sinusoid and phasors in an electric circuit. 9. Discuss the various properties of resistors, capacitors, and inductors. 10. Explain the two Kirchoff's laws used in circuit analysis. 11. Understanding Semiconductor Diodes 12. Understanding Diode Applications in D.C. 13. Understanding Diode Applications in A.C. 14. Understanding Clippers networks
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p>DC circuits – Current and voltage definitions, Passive sign convention and circuit elements, Combining resistive elements in series and parallel. Kirchoff's laws and Ohm's law. Anatomy of a circuit, Network reduction, Introduction to mesh and nodal analysis. [15 hrs]</p> <p>AC circuits I – Time dependent signals, average and RMS values. Capacitance and Inductance, energy storage elements, simple AC steady-state sinusoidal analysis. [15 hrs]</p> <p>AC Circuits II - Phasor diagrams, definition of complex impedance, AC circuit analysis with complex numbers. [10 hrs]</p> <p>RL, RC and RLC circuits - Frequency response of RLC circuits, simple filter and band-pass circuits, resonance and Q-factor, use of Bode plots, use of differential equations and their solutions. Time response (natural and step responses). Introduction to second order circuits. [15 hrs]</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This Course Specification provides a concise summary of the main features of the course and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It should be cross-referenced with the programmer specification.

Student Workload (SWL) الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	86	Structured SWL (h/w) الحمل الدراسي المنتظم للطلاب أسبوعيا	86/15=5.7
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	39	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطلاب أسبوعيا	39/15=2.6
Total SWL (h/sem) الحمل الدراسي الكلي للطلاب خلال الفصل	125		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	5, 10	LO #1,2, 4 and 5
	Assignments	4	15% (15)	2,4,6,8,	LO # 3,6,9 and 10
	Projects	-	-	-	-
	Report	4	10% (10)	14	LO # 7 and 8
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Basic Concepts
Week 2	Electrical Resistance, Ohm's Law
Week 3	Resistors in Series & Voltage Divider Rule, Resistors in parallel & Current Divider Rule
Week 4	Active and passive circuit elements, Sources in D.C. circuits
Week 5	Independent sources (Voltage and current sources), Independent source conversion
Week 6	Kirchhoff's First and second law, Circuit analysis methods
Week 7	Mesh current analysis
Week 8	Electronic Systems, Diodes
Week 9	Transistors, Operational Amplifiers
Week 10	Signals Analysis, The Human Body and Its Signals, Signal and noise
Week 11	The Human Body and its Signals, Myo electrodes, Metal to metal paste electrode
Week 12	Amplifier types, gain, frequency response
Week 13	Electronic filters
Week 14	Interface rejection technique
Week 15	Safety, earthing, fuse breaker
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي المختبر	
	Material Covered
Week 1	Ohm's Law
Week 2	Series DC Circuits
Week 3	Parallel DC Circuits
Week 4	Series-Parallel DC Circuits
Week 5	Semiconductor Diode Characteristics
Week 6	Ac to Dc Voltage Conversion
Week 7	Voltage Doubler Circuit

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Fourth edition Microelectronics circuit analysis and design	No
Recommended Texts	Fundamentals of Electric Circuits, C.K. Alexander and M.N.O Sadiku, McGraw-Hill Education	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	مقبول	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX - Fail	راسب (تؤيد المعالجة)	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Prostheses I		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input checked="" type="checkbox"/> Seminar
Module Code	UOKTB6PO405		
ECTS Credits	8		
SWL (hr/sem)	200		
Module Level	2	Semester of Delivery	3
Administering Department	09	College	03
Module Leader	Lecture: Mowafaq Abdullah Saleh	e-mail	
Module Leader's Acad. Title	Lecture	Module Leader's Qualification	Lecture
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	12/2025	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	Prosthetic II	Semester	5

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	<ol style="list-style-type: none"> 1. To understand types of lower limb amputation 2. To identify the types of lower prosthesis 3. To distinguish between levels of amputation 4. To perform the type of Components Sockets, Suspension Shanks and Feet. 5. To proper Alignment for each type of lower prosthesis 6. To understand the experimental procedure for lower limb prosthesis
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Identify the types of lower extremities 2. Identify the types of Foot , Ankle, Knee and Hip joint 3. Learning the types of socket 4. Learning the types of suspension 5. Learning the types of amputation 6. Performing the components of prosthetic device 7. Performing the Alignment of prosthesis 8. Learning the biomechanics Socket and Socket Shape Variations 9. Learning the Gait Analysis with amputation 10. Understanding Experimental manufacturing of prosthesis
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <p>Introduction to Prosthesis, Prosthesis in Foot and Ankle Amputation [2 hrs] Components & Prescription principles, Biomechanics Socket and Socket Shape Variations [6 hrs] Prosthesis in Transtibial Amputation, Components Sockets, Suspension Shanks and Feet, Alignment of Below Knee Prosthetic [8 hrs] Prosthesis in Knee Disarticulation [4 hrs] Gait Analysis in Transtibial and Knee Disarticulation Amputation [6 hrs] Prosthesis in Transfemoral Amputation, Biomechanics Socket and Socket Shape Variatlons, Components & Alignment [8 hrs] Prosthesis in hip Disarticulation, Stump anatomy and biomechanics [6 hrs] Gait Analysis in Transemoral and hip Disarticulation Amputation [4 hrs] ..</p>

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

	The main strategy that will be adopted in delivering this module is to learn students in lower limb prosthesis levels and be familiar with level of amputation ,type of joint for ankle knee and hip and learn the stages of experimental procedure for each level of amputation .This will be achieved through classes, interactive tutorials ,asking questions ,discussions and solving samples of problems in class and homework
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Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	128	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب اسبوعيا	8.5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	72	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب اسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	15% (15)	2,4,6,8,10	LO #1,3, 6,10 and 12
	Assignments	2	15% (15)	4,8	LO # 3,7,9 and 10
	Projects	-	-	-	-
	Report	1	10% (10)	14	LO # 7 and 9
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 3 to 7
	Final Exam	3hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Prosthesis

Week 2	Prosthesis in Foot and Ankle Amputation
Week 3	Components & Prescription principles
Week 4	Biomechanics Socket and Socket Shape Variations
Week 5	Prosthesis in Transtibial Amputation
Week 6	Components Sockets, Suspension Shanks and Feet.
Week 7	Alignment of Below Knee Prosthetic
Week 8	Prosthesis in Knee Disarticulation
Week 9	Gait Analysis in Transtibial and Knee Disarticulation Amputation
Week 10	Prosthesis in Transfemoral Amputation
Week 11	Biomechanics Socket and Socket Shape Variations
Week 12	Components & Alignment
Week 13	Prosthesis in hip Disarticulation
Week 14	Stump anatomy and biomechanics
Week 15	Gait Analysis in Transemoral and hip Disarticulation Amputation
Week 16	

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Measurement, Manufacturing and Alignment of Partial Foot Prosthesis Test.
Week 2	Measurement, Manufacturing and Alignment of Partial Foot Prosthesis Test.
Week 3	Measurement, Manufacturing and Alignment of Partial Foot Prosthesis Test.
Week 4	Measurement, Manufacturing and Alignment of Partial Foot Prosthesis Test.
Week 5	Measurement, Manufacturing and Alignment of Ankle Disarticulation Prosthesis Test.
Week 6	Measurement, Manufacturing and Alignment of Ankle Disarticulation Prosthesis Test.
Week 7	Measurement, Manufacturing and Alignment of Ankle Disarticulation Prosthesis Test.
Week 8	Measurement, Manufacturing and Alignment of Below Knee Prosthesis Test.
Week 9	Measurement, Manufacturing and Alignment of Below Knee Prosthesis Test.
Week 10	Measurement, Manufacturing and Alignment of Below Knee Prosthesis Test.
Week 11	Measurement, Manufacturing and Alignment of Below Knee Prosthesis Test.
Week 12	Measurement, Manufacturing and Alignment of Through Knee Prosthesis Test.

Week 13	Measurement ,Manufacturing and Alignment of Through Knee Prosthesis Test.
Week 14	Measurement ,Manufacturing and Alignment of Through Knee Prosthesis Test.
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	<ul style="list-style-type: none"> Prosthetics and orthotics / Donald Shurr, John W. Michael. Short Textbook of Prosthetics and Orthotics Lower Limb Amputation A Guide to Living a Quality Life 	No
Recommended Texts	Cambodian School of Prosthetics and Orthotics.	No
Websites		

Grading Scheme مخطط الدرجات				
Group	Grade	تعريف	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 - 49)	FX – Fail	راسب (يُبدى المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
<p>Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.</p>				

Course Specification of third Year

Course Specification of fourth Year

TEMPLATE FOR TYPICAL SITE VISIT SCHEDULE

1. The typical site visit schedule is designed for two or three days. It includes pre-arranged meetings. The responsibility for arranging these meetings and fitting the template to the

circumstances rests with the Universities Quality Assurance and University Performance departments

2. Site visits will normally commence at 09:00 on day 1. Start times of pre-arranged meetings are indicated. Pre-arranged meetings should not normally last more than one hour. The schedule should not completely fill all times with meetings, but leave space for additional activities by peer reviewers including preparing for meetings, updating notes and records and drafting paragraphs for the draft Program Review report

Table (1)

Session	Time	Activity
Day 1		
1	09:00	Welcome and introductions; brief introduction to the review (purposes, intended outcomes, use of evidence and self-evaluation report) – Program Team
2	09:30	Curriculum; discussion with faculty members
3	11:00	Meeting with a group of students
4	12:30	Efficiency: tour of resources
5	14:00	Review panel meeting: scrutiny of additional documentation including sample of students' assessed work
6	15:00	Efficiency: meeting with faculty members
7	16:00	Review panel meeting: review of the evidence and any gaps or matters to follow-up
8	17:00	Meeting with external stakeholders (sample of graduates, employers, other partners)
Day 2		
9	08:45	Review meeting with review chairperson, review coordinator, program leader: summary of day 1 findings, addressing any gaps, adjust the schedule for day 2 if required
10	09:00	Academic standards: meeting with faculty members
11	10:30	Effectiveness of quality management and assurance: meeting with faculty members
12	12:00	Review panel meeting: review of evidence and any matters still to be addressed
13	14:00	Flexible time to pursue any matters arising
14	14:30	Review panel final meeting: decisions on outcomes and drafting oral feedback
15	16:30	Oral feedback by review chairperson to review coordinator and faculty members
	17:00	Close

TEMPLATE FOR THE FOLLOW-UP PROCESS AND REPORT, AND OUTLINE OF TYPICAL SITE VISIT SCHEDULE FOR FOLLOW-UP

TEMPLATE FOR FOLLOW-UP REPORT

Quality Assurance and Academic Accreditation Directorate / International Accreditation Department.

Institution:

Faculty:

Program:

Follow-up Report

1. This report presents the findings of the follow-up visit, which took place on / /20__ . This is part of the Universities Quality Assurance and University Performance departments' arrangements to provide continuing support for the development of internal quality assurance processes and continuing improvement
2. The purposes of the follow-up review are to assess the progress made in the program since the Program Review report, and to provide further information and support for the continuing improvement of academic standards and quality of higher education in Iraq.
3. The evidence base used in this follow-up review and report includes:
 - a) Self-Evaluation Report for the program together with supporting information
 - b) Improvement plan prepared and implemented since the Program Review report
 - c) Program Review Report
 - d) Higher Education Quality Review Report and institutional strategic plan (if any)
 - e) Additional evidence presented during the follow-up visit.
4. The overall conclusions reached as the outcome of the follow-up review are as follows:
 - a) The program (give title) at (give name of institution) has/has not successfully implemented an improvement plan.
 - b) Good practice in the indicators demonstrated since the Program Review site visit includes: (insert)
 - c) Matters of particular importance that should be addressed by the institution in its continuing improvement of the program are: (insert and indicate if they are, or as yet are not, addressed by the improvement plan).
5. The detailed report is provided in Annexure A below.

Annexure A

Name of Institution _____

Date of initial Program Review site visit _____

Date visited in follow-up _____

Date of follow-up report _____

Names of follow-up reviewers _____

Position/title _____

Signed _____

Part 1: The Internal Quality Assurance System in operation				
	Questions	Yes? (√)	Comment	Further action required?
1	Is the program Self- Evaluation Report complete?			
2	Do the most recent self-evaluation reports indicate the extent to which the criteria in the Framework for Evaluation are met and/or are being addressed?			
3	Is there an improvement plan in place, informed by external and internal review?			
4	Are there any major gaps that appear not to be addressed?			
5	Is progress with the improvement plan monitored?			
6	Are there any major obstacles to the expected achievement of the improvement plan?			
7	What is the institution's estimate of the time needed to complete improvements to the program?			
8	What is the reviewers' assessment of the time needed to complete improvements to the program that would demonstrate the indicators?			

Part 2: Progress demonstrated with the indicators			
Indicators (refer to Framework of Evaluation)	Improvement plan points (comment on match with the Program Review report's recommendations)	New information from follow-up site visit	Overall conclusion
<u>Curriculum</u> Aims and ILOs Syllabus (content) Progression year on year Teaching and Learning Student assessment			
<u>Efficiency</u> Profile of admitted students Human resources Physical resources Uses made of available resources Student support Ratios of graduation to admitted students			
<u>Academic Standards</u> Clearly articulated standards Use of appropriate benchmarks Achievement of graduates Standards of students' assessed work			
<u>Program management and Assurance</u> Arrangements for program management Policies and procedures applied Structured comments collected and used Staff development needs identified and addressed Improvement planning processes working			

CRITERIA FOR A SUCCESSFUL REVIEW AND EVALUATION OF THE PROCESS

CRITERIA FOR A SUCCESSFUL REVIEW

1. The criteria for a successful review that informs the arrangements for Program Review and its evaluation are as follows:
 - i. The program being reviewed is supported by existing or developing internal systems including specifications and review with a culture of self-evaluation and continuing improvement. These features of internal review provide a sound basis for the external review.
 - ii. The timing of the external review is appropriate.
 - iii. The profile of the visiting peer review panel matches in broad terms the profile of the academic activities in the institution.
 - iv. There is due attention to detail in planning and preparation, by -
 - a. The Quality Assurance and Academic Accreditation Directorate applies consistently its procedures for working with the institution and the reviewers and provides appropriate support for the external review as required
 - b. The review coordinator: ensures that the evidence base generated by internal review and reporting systems is available on time to the visiting peer reviewers, and any requirements for clarification and supplementary information are satisfied
 - c. The institution: provides a self-evaluation report for the program to be externally reviewed
 - d. The peer reviewers: undertake their preparation for the visit including reading the advance documentation and preparing initial commentaries that inform the conduct of the visit
 - v. There is consistency in the application of the published review method and the protocols by all participants in a way that respects and supports the mission and philosophy of the overall process for continuing review and continuing improvement.
 - vi. Reviewers and representatives of the institution conduct an open dialogue throughout the review that shows mutual respect.
 - vii. The judgments reached by the reviewers are clear, based on the evidence available and systematically recorded.
 - viii. The review report is produced on time in line with the standard report structure and is confirmed by the institution to be factually accurate.
 - ix. The set of conclusions arising from the review are constructive, offering a fair and balanced view of the program.
 - x. The institution is able to benefit from the external review by giving due reflection and consideration to the findings and preparing where appropriate a realistic improvement plan

EVALUATION

2. The Quality Assurance and Academic Accreditation Directorate wishes to establish and implement procedures for the systematic evaluation of all external Program Reviews arranged by it. The institution, the review chairperson and the peer reviewers will all routinely be asked to evaluate each external review by completing a short questionnaire. The structured comments will be analyzed by the Quality Assurance and Academic Accreditation Directorate and where necessary the Quality Assurance and Academic Accreditation Directorate will take action to follow-up any difficulties highlighted. In addition, the Quality Assurance and Academic Accreditation Directorate will collate the structured comments to compile regular summary reports indicating the main features of the review process in practice, including the overall levels of satisfaction expressed by the participants, together with examples of good practice and opportunities for continuing improvement.

GLOSSARY OF TERMS IN PROGRAM REVIEW

DEFINITIONS OF TERMS USED IN THE PROGRAM REVIEW HANDBOOK

Some of the terms used in the Handbook and/or used in internal and external review and reporting may have different meanings according to the context in which they are used. To remove possible ambiguities, the following working definitions of the terms are offered.

ADEMIC FIELDS/SUBJECT AREAS/DISCIPLINES

Academic fields categorize recognizable and coherent domains or the scope of study such as Mathematics, Medicine, Engineering and Philosophy. Fields that have a wide scope are often subdivided; for example, Humanities include subjects like History and Literature and Arts may include separate disciplines of Fine Arts and Photography. The curriculum of some programs may combine academic fields, or may include different subjects and disciplines such as Mathematics in Engineering or Accountancy in Business Administration.

ACADEMIC STANDARDS

Specific standards decided by the institution, and informed by external reference points. They include the minimum or threshold level of knowledge and skills to be gained by the graduates from the program, and can be used in evaluation and review.

ACCREDITATION

The recognition accorded by an agency or other organization to either an education program or to an institution to confirm that it can demonstrate that the program(s) meet acceptable standards and that the institution has effective systems to ensure the quality and continuing improvement of its academic activities, according to published criteria.

ACTION OR IMPROVEMENT PLANS

Realistic plans for improvement derived from the consideration of available evidence and evaluations; they may be implemented for more than one year, but should be prepared and reviewed annually at each level of courses, programs and the institution.

ADMITTED STUDENTS

Students registered on a program, including those accepted holding prior credits for admission after year 1.

BENCHMARK/REFERENCE POINTS

Benchmark statements represent general expectations about the standards of achievement and general attributes to be expected of a graduate in a given academic field or subject. Reference standards may be external or internal. External reference points allow comparison of the academic standards and quality of a program with equivalent programs in Iraq and internationally. Internal reference points may be used to compare one academic field with another, or to identify trends over a given time period.

COMMUNITY

A defined segment of wider society served by the institution, as determined in its mission and bylaws. It may be defined geographically or in terms of the range of organizations, groups and

individuals engaged in its activities.

COURSE AIMS

Overall course aims should be expressed as the outcomes to be achieved by students completing the course as significant and assessable qualities. They should contribute to the achievement of defined aims within one or more education programs.

CURRICULUM OR (IN THE PLURAL) CURRICULA

The complete organized learning as designed and managed by an institution for an admitted student, determined by the intended learning outcomes (ILOs) and comprising the content, the arrangements for teaching and learning and assessments of students' achievements together with the access to the range of facilities available within the University and, by arrangement, outside it, including libraries, computers studies, social, sports, internships and field studies.

DIRECTED SELF-LEARNING/INDEPENDENT LEARNING

The active promotion of personal skills included in the curriculum that support the student and graduate to seek, assimilate and learn from a range of structured and unstructured experiences. Methods of promotion include e-learning, personal and autonomous learning and fieldwork, assignments, internships, and reflexive learning. Devices commonly used that support directed self-learning beyond formal teaching lectures include logbooks, self-assessment reports, interactive learning tools or the equivalent.

E-LEARNING

Electronic-based learning using information technology may be the primary or secondary element in material associated with a program or a course. It may be stand-alone or integrated with other teaching and learning approaches. It may include self-determination of aims, ILOs and materials using self-selection and will usually include self-assessment. It generally increases the levels of autonomy in, and responsibility for, learning. Converting existing texts or lecture notes to a website or pre-recorded media alone is generally not considered to be e-learning.

EXTERNAL EVALUATOR/EVALUATION

An appointment to a specific program, part of a program or course(s) by the institution to establish an independent and external professional opinion on the academic standards set and achieved in the examinations for the award of the degree.

FRAMEWORK FOR EVALUATION

The framework for evaluation provides a standard structure for evaluation of programs. It will form the basis for self-evaluation, the site visit by external peer reviewers and the Program Review report. It is designed to operate in all academic fields and institutions, and to apply to internal and external reviews.

GENERAL PRECEPTS/BY-LAWS

Principles, by-laws and regulations, which the educational institution must have as part of the policies covering its operations.

HIGHER EDUCATION INSTITUTE (HEI)/INSTITUTION

A Faculty, College or University providing higher education programs leading to a first university degree (B.Sc. or B.A.) or a higher degree.

INTENDED LEARNING OUTCOMES (ILOS)

The ILOs are the outcome-related definition of knowledge, understanding and skills which the institution intends for its programs. They should be mission-related, capable of measurement (assessable) and reflect the use of external reference standards at appropriate level.

INTERNAL SYSTEM FOR QUALITY MANAGEMENT AND ASSURANCE

The system adopted by the institution to ensure that its education programs and contributing elements meet specified needs and are continually reviewed and improved. An outcomes-related system of quality management involves precise specifications for quality from design to delivery; evaluation; the identification of good practice as well as of learning deficiencies and obstacles; performance follow-up; suggestions for development and enhancement; and the systematic review and development of processes for establishing effective policies, strategies and priorities to support continuing improvement.

JOB/LABOUR MARKET

The availability of professional, commercial, research-oriented or other fields of employment that a graduate is qualified to join upon graduation.

MISSION STATEMENT

A brief statement clearly identifying the educational institution's duty and its role in the development of the community; a mission statement may also offer brief supporting statements on the vision, values and strategic objectives of the institution.

PEER REVIEWER

A person who is professionally equal in caliber and with management and/or subject expertise to those delivering the provision, but not from the same institution and without any conflict of interest, who can contribute to the review of an education program for internal and external quality assurance or for accreditation purposes.

PROGRAM

For the purpose of Program Review an education program is defined as one which admits students who, on successful completion, receive an academic award.

PROGRAM AIMS

The broad purposes for providing the program which in turn guide the development and implementation of strategic objectives (to ensure that the aims are met) and ILOs (to ensure that the students work towards attaining the specified outcomes).

PROGRAM REVIEW

Program Review applies to all education programs in all higher education institutions. Where the program is studied in more than one institution, the whole program is included in Program Review. Program Review in Iraq has three objectives:

- 1) To provide decision-makers (in the higher education institutions, Quality Assurance and Academic Accreditation Directorate , parents, students, and other stakeholders) with evidence-based judgments on the quality of learning programs
- 2) To support the development of internal quality assurance processes with information on emerging good practice and challenges, evaluative comment and continuing improvement
- 3) To enhance the reputation of Iraq's higher education internationally.

QUALITY ASSURANCE

The institution has the means of assuring that for each education program, academic standards are defined and achieved in line with equivalent national and international standards, that the quality of the curriculum and related infrastructure are appropriate and fulfill the expectations of the range of stakeholders, that its graduates represent the range of attributes specified and that the organization is capable of sustained, continuing improvement.

REVIEW COORDINATOR

The nominee of an institution to coordinate a Program Review to assist in the gathering and interpretation of information and to support the application of published methods of review.

REPORT

The regular reports prepared on the basis of Program Reviews and evaluations of its education program.

SELF-EVALUATION

An institution's process of evaluating a program as part of Program Review and within an internal system of quality management and assurance.

SITE VISIT

A scheduled visit by external peer reviewers as part of Program Review. Normally the site visit will be for two or three days. A typical outline timetable is provided in Appendix (1).

SPECIFICATION

The detailed description of the aims, construction and intended outcomes of a program, and any courses, specific facilities or resources that contribute to it. The specification provides information to design, manage, deliver and review the program.

STAKEHOLDER

Those organizations, groups or individuals which have a legitimate interest in the educational activities of the institution both in respect of the quality and standards of the education and also in respect of the effectiveness of the systems and processes for assuring the quality. An effective strategic review process will include the key stakeholder groups. The precise range of stakeholder groups and their differentiated interests depend upon the mission of the institution, its range of educational activities and local circumstances. The range is usually defined by a

scoping study. Examples of groups with a legitimate interest include current students, graduates, intending students and their parents or family, staff in the institution, the employing community, the relevant Government ministries, the sponsors and other funding organizations and, where appropriate, professional organizations or syndicates.

STRATEGIC OBJECTIVES/PLANS

A collection of institution-specific objectives that are derived from its mission and developed into a realistic plan based on evidence-based evaluations. Objectives concentrate on the means by which an institution seeks to deliver its mission. The plan sets out the matters to be addressed, timeframe, person responsible and estimate of costs, and is accompanied by an implementation plan with arrangements for monitoring the progress and evaluating impact.

STUDENTS' ASSESSMENT

A set of processes, including examinations and other activities conducted by the institution to measure the achievement of the intended learning outcomes of a program and its courses. Assessments also provide the means by which students are ranked according to their achievement. Diagnostic assessment seeks to determine the existing range of knowledge and skills of a student with a view to constructing an appropriate curriculum. Formative assessment provides information on the student's performance and progress to support further learning, without necessarily counting a grade towards graduation. Summative assessment determines the final level of attainment of the student on the program or at the end of a course that contributes credits to the program.

STUDENTS' EVALUATIONS

The systematic gathering of students' opinions on the quality of their program in a standardized structure together with the analysis and outcomes. Surveys using questionnaires are the most frequently used methods to collect opinions; other mechanisms include websites conferences, panels or focus groups, and representation on councils or other committees.

TEACHING AND LEARNING METHODS

The range of methods used by teachers to help students to achieve the ILOs for the course. Examples include: lectures, small group teaching such as tutorials, seminars and syndicate groups; a case study to teach students how to analyze information and reach a decision; assignments such as writing a review paper for the students to gain the skills of self-learning and presentation; field trips; practical sessions for the students to gain practical skills; and carrying out experiments to train the students to analyze the results, reach specific conclusions and prepare a report, presentation or poster.