MODULE DESCRIPTION FORM For COMPUTER SCIENCE I

نموذج وصف المادة الدراسية لمادة الحاسبات I

Module Information معلومات المادة الدراسية					
Module Title	**Computer Science I**			**Module Delivery**	
Module Type	**Basic**			☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	**NU103**				
ECTS Credits	**3**				
SWL (hr/sem)	**75**				
Module Level	**1**	**Semester of Delivery**	**1**		
Administering Department	**PE**	**College**	**COENG**		
Module Leader	**Abdul lateef Ali Hussain**	**e-mail**	**abdullateef.ali@alnaji-uni.edu.iq**		
Module Leader's Acad. Title	**Assist. prof**	**Module Leader's Qualification**	**PHD**		
Module Tutor		**e-mail**			
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date		**Version Number**	1.0		

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

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Objectives أهداف المادة الدراسية	Elements of a computer, Windows system (history, elements, functions, applications, special types); Microsoft office (Word, Excel, Power Point); Internet (types of networks, search tools, method of search, E-mail; Web page.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	This module introduces students to the fundamental principles of computer programming and its applications in the field of petroleum engineering. It aims to equip students with programming skills to solve engineering problems, analyze data, and develop software tools for various petroleum engineering tasks. 1. The Computer Programming module provides petroleum engineering students with a strong foundation in programming concepts and techniques, enabling them to leverage computational tools and algorithms to solve industry-specific problems efficiently. By acquiring programming skills, students enhance their problem-solving abilities and become well-equipped to navigate the digital landscape of the petroleum industry.
Indicative Contents المحتويات الإرشادية	Lecture titles • Understand the reason behind studying computer parts and its main applications. • Review the basics of MS PowerPoint • Custom animation • Add photos, videos and sound effects • Save as a webpage • Print presentations as handouts • Embed YouTube videos • create slideshows composed of text, graphics, and other objects. • which can be displayed on-screen and shown by the presenter or printed out on transparencies or slides. • review the main purpose of MS word • An overview of the interface features • Creating documents • Setting the printing options • Formatting text, styles, and paragraphs • Creating Lists and Constructing Advanced Tables • Creating bulleted and numbered lists • Creating tables • Editing and formatting tables • Creating Professional Documents • Word-referencing features • Creating and updating the TOC

	• Using citations to build a bibliography • Adding citation sources • Generating the bibliography • Editing the citation style • Working with master documents or subdocuments • Customizing page layouts • Inserting a cover page quick part • Converting text into columns • Inserting and modifying section breaks • Adding section breaks • Headers and footers • Inserting page numbers. • Choosing a different first page • Numbering from a specific page number • Different header and footer sections • Introduction to Microsoft Excel • identify the main parts of the Excel window. • Identify the purpose of the commands on the menu bar. • Work with the buttons on the toolbar. • Explain the purpose of options available for printing a spreadsheet. • Enter and format text and numbers into cells. • Successfully move from one cell to another containing formulas and text. • Copy, Cut and Paste text and formulas • excel charts

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The module will be delivered through a combination of lectures, tutorials, and independent study, all structured around the primary textbook. • **Lectures:** Key concepts and theories will be introduced and explained in lectures, following the progression of Hibbeler's text. Worked examples, often adapted from the textbook, will be used to illustrate problem-solving techniques. • **Tutorials:** Tutorial sessions will provide students with the opportunity to work through problems from the end-of-chapter sections in the textbook. These sessions are interactive, allowing students to ask questions and receive guided support. • **Problem-Based Learning:** Students will be assigned regular problem sets, drawn from the textbook, to develop their analytical and problem-solving skills. • **Independent Study:** Students are expected to read the relevant chapters in the textbook before each lecture and to practice additional problems for reinforcement.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	112	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	7
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	10%	4 and 11	LO#1 and LO#2
	Assignments	2	10%	2 and 13	LO#1 and LO#3
	Reports	1	10%	13	LO#1, LO#2 and LO#4
	Group Discussions	1	10%	12	LO#1, LO#2 and LO#3
Summative assessment	**Midterm Exam**	1hr	10%	7	LO#1, LO#2 and LO#3
	Final Exam	3hr	50%	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Introduction & Force Vectors:** Fundamental Concepts, Units, Vector Operations
Week 2	**Force Vectors (Continued):** Addition of a System of Coplanar Forces, Cartesian Vectors
Week 3	**Equilibrium of a Particle:** Condition for Equilibrium, The Free-Body Diagram, Coplanar & 3D Force Systems.
Week 4	**Force System Resultants:** Moment of a Force, Cross Product, Principle of Moments.
Week 5	**Force System Resultants (Continued):** Moment of a Couple, Simplifica **Structural Analysis: Trusses:** Simple Trusses, The Method of Jointstion of a Force and Couple System.
Week 6	**Equilibrium of a Rigid Body:** Conditions for Rigid-Body Equilibrium, Free-Body Diagrams

Week 7	**Equilibrium in 2D & 3D:** Equations of Equilibrium in 2D, Two- and Three-Force Members, 3D Equilibrium.
Week 8	Midterm Exam
Week 9	**Structural Analysis: Trusses:** Simple Trusses, The Method of Joints
Week 10	**Structural Analysis: Trusses, Frames & Machines:** The Method of Sections, Analysis of Frames and Machines.
Week 11	**Center of Gravity and Centroid:** Center of Gravity, Center of Mass, and Centroid of a Body.
Week 12	**Centroid of Composite Bodies:** Determining the Centroid of Composite Areas and Volumes.
Week 13	**Friction:** Characteristics of Dry Friction, Problems Involving Dry Friction.
Week 14	**Moments of Inertia:** Definition of Moments of Inertia for Areas, Parallel-Axis Theorem, Moment of Inertia for Composite Areas.
Week 15	**Module Revision and Consolidation:** Comprehensive review of all key topics and preparation for final assessment.

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Hibbeler, R. C. (2010). *Engineering Mechanics: Statics*, 12th Edition. Pearson Prentice Hall.	Yes
Recommended Texts	J.L. Meriam and G. Kraige, "Engineering Mechanics – Statics", 7/e, John Wiley & sons, 2013	Yes
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

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.