



Ministry of Higher Education and
Scientific Research - Iraq
Northern Technical University
Technical Engineering College
Surveying Engineering Dep.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer fundamentals		Module Delivery
Module Type	B		<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	NTU102		
ECTS Credits	3		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	1
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Alaa Omer Najim	e-mail	Alaa.omer@ntu.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	Module Leader's Qualification	Master
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	15/06/2023	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</p> <p>أهداف المادة الدراسية</p>	<p>This module aim to support the student with the following skills:</p> <p>Understand the purpose and elements of information systems Recognize the different types of computers Distinguish the main software types Identify the components of a computer system Understand how computers communicate</p>
<p>Module Learning Outcomes</p> <p>مخرجات التعلم للمادة الدراسية</p>	<p>Parts of an information system 1.People: the only reason computers exist is to help people accomplish their goals. 2.Hardware: is the physical part of the computer system. Hardware consists of components inside a computer as well as the external devices that interact with it. 3.Software: programs that tells the hardware what to do. 4.Procedures: The software doesn't run itself (usually). People must interact with the computer to tell it what software to run. 5.Data: Computer programs operate upon the data they receive.</p> <p><input type="checkbox"/> Computer Types Computers can be generally categorized into: Personal Computers Desktop PCs Notebook PCs (Laptop) Tablet PCs Smartphones Multi-User Computers Server Mainframes Supercomputers</p> <p><input type="checkbox"/> Computer Types Personal Computer: A computer designed to be used by only one person at a time. Desktop PC System unit, separate monitor, keyboard, mouse Notebook PC Fold-up design, built-in keyboard and screen Tablet PC Slate design, touch screen, no separate keyboard, mouse, or monitor Smartphone Hand-held, phone and computer, touch screen</p> <p><input type="checkbox"/> Computer Types</p> <p><input type="checkbox"/> Other personal computer types *</p> <p><input type="checkbox"/> Computer Types Multi-User Computers: are designed to serve groups of people, from a small office to a huge international enterprise Server Serves and supports a network Provides centrally accessible storage space Shares resources such as printers and files Does not directly provide processing power to clients Mainframe Collects large amounts of business data Provides processing support to terminals Supercomputer Largest computer available Universities, research, government</p> <p><input type="checkbox"/> Servers and Mainframes</p> <p><input type="checkbox"/> Supercomputers</p> <p><input type="checkbox"/> Software Types Software: are the programs that tell the computer what to do. Operating System (OS): the program that manages all the computer's activities after startup. ♣ User interface ♣ Runs application ♣ File storage ♣ Communication with hardware ♣ Examples ♣ Windows ♣ Mac OS ♣ Unix</p> <p><input type="checkbox"/> Application Software Application Software: Software that helps a human perform a useful task for work or play. ♣ Examples: Productivity tools, graphics, games, multimedia software Productivity software: Software that helps a human perform one or more business or personal enrichment tasks. Usually comes as a suite: A group of applications designed to complement each other's capabilities and work together closely, often with a consistent interface between the applications. Example: MS Office</p>

Indicative Contents المحتويات الإرشادية	After successfully completing this course, a student will be able to: Converse in basic computer terminology. Formulate opinions about the impact of computers on society. Possess the knowledge of basic hardware peripherals.
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Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	To deliver this module; The main strategy that will be adopted 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 Examples and Revision problem in class with some activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل		Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل		Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	135		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4, 9	LO #1-2, and 3
	Assignments	2	10% (10)	3, 12	LO # 3-5
	Projects / Lab.		0% (0)		
	Report	1	10% (10)	14	LO # 2 and 4
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-6
	Final Exam	2hr	40% (50)	16	All

Total assessment	100% (100 Marks)		
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Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Definition of computer, generations, its components: hardware and software
Week 2	Operating system MS-DOS: conception of operating system, system signal, CD, directories and its levels and files, internal and external commands
Week 3	operating system Internal commands: Dir, del,
Week 4	operating system: time, Cls, date
Week 5	operating system Internal commands: RD, CD, MD,
Week 6	operating system Internal commands: Echo, prompt, Ren, copy, vol, ver, path
Week 7	Operating system external commands: edit, tree, xcopy, format, chkdsk, diskcopy
Week 8	Operating system windows: windows conception, advantage and essential requirements, primary screen components for the desktop, icons, how to deal with the mouse activities
Week 9	The importance and components of taskbar, start button, exit from the system and turn off the computer
Week 10	Deal with the desktop's icons (my computer, my documents, and recycle bin)
Week 11	My computer, CD, folders and files and how to deal CD preparation, copy files and folders and other properties, how to deal with recycle bin, delete files and retrieve them.
Week 12	Benefit of Control panel like mouse, display icon and change the desktop background. Change the appearance of windows menu and their colors. Add and remove program icon in adding and deleting files
Week 13	Additional programs accessories like calculator, snipping tool. Deal with paint program for creating, saving and retrieving images
Week 14	Note pad and wordpad in writing, save, retrieve and print texts.
Week 15	Learn how to get help and its techniques. Computer viruses, types and how to deal with it.
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?

Required Texts	<ul style="list-style-type: none"> Khan, Mohammad Ibrahim. Industrial engineering. New Age International, 2004. 	Yes
Recommended Texts	<ul style="list-style-type: none"> Vaughn, Richard C. Introduction to industrial engineering. Iowa State Pr, 1985. Zuriarrain, Amador. "Maynard, HB: Manual de Ingeniería de la Producción Industrial (Book Review)." Boletín de Estudios Económicos 17 (1962): 646. Joseph C. Hartman, "Engineering Economy and the Decision Making Process" Prentice Hall, 2007 	No
Websites	https://www.uoanbar.edu.iq/eStoreImages/Bank/6298.pdf	

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.



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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Engineering Drawing		Module Delivery
Module Type	B		<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	TECK103		
ECTS Credits	٦		
SWL (hr/sem)	١٥٠		
Module Level	1	Semester of Delivery	٢
Administering Department	SUE	College	TECK
Module Leader	NABAZ YASSIEN EZZUKDIN	e-mail	Nabaz.shexani@ntu.edu.iq
Module Leader's Acad. Title	ASSIST.LECTURER	Module Leader's Qualification	M.sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	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	By achieving these aims, engineering drawing modules provide students with a fundamental skill set necessary for effective communication, design, and manufacturing in the field of engineering.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none">1. Understanding Technical Drawings: The aim is to familiarize students with the principles, conventions, and symbols used in engineering drawings. This includes understanding different views (such as orthographic projections), dimensions, scales, and annotations commonly found in engineering drawings.2. Developing Visualization Skills: Engineering drawing aims to enhance students' ability to visualize objects and their components based on 2D representations. This involves interpreting drawings and mentally transforming them into 3D objects, enabling students to understand the spatial relationships between different parts.3. Communicating Design Intent: The aim is to teach students how to effectively communicate design ideas and specifications through engineering drawings. Students learn to create clear and accurate drawings that convey critical information to manufacturers, fabricators, and other stakeholders involved in the production or construction process.4. Creating Technical Drawings: Engineering drawing aims to develop students' skills in creating technical drawings using appropriate software or traditional drafting tools. This includes understanding drawing standards, selecting appropriate scales, applying dimensioning techniques, and producing professional-quality drawings.5. Interpreting and Analyzing Drawings: The module aims to enable students to interpret and analyze existing engineering drawings. They learn to extract information, identify geometric features, understand tolerances, and make critical assessments of the drawings for various purposes, such as manufacturing or troubleshooting.6. Collaborative Design: Engineering drawing aims to facilitate collaborative design processes by teaching students how to work with others in creating and modifying drawings. This involves understanding drawing revision control, incorporating feedback from team members, and ensuring compatibility and consistency between different parts of a project.7. Applying Standards and Regulations: The aim is to introduce students to relevant standards and regulations that govern engineering drawings, such as dimensioning and tolerancing standards, drawing organization, and documentation requirements. This ensures that students develop an understanding of industry best practices and comply with applicable regulations.

When studying engineering drawing using AutoCAD software, the indicative contents of the course may include the following topics:

1. Introduction to AutoCAD:

- Overview of AutoCAD interface and tools
- Understanding the workspace and navigation techniques
- Configuring settings and units in AutoCAD

2. Basic Drawing Commands:

- Line, polyline, and arc creation and editing
- Circle, ellipse, and spline drawing
- Use of layers, colors, and linetypes

3. Drawing Precision and Object Snapping:

- Object snap tools and techniques for accurate drawing
- Grid and snap settings
- Polar and object tracking

4. Modifying and Editing Commands:

- Move, copy, rotate, scale, and mirror commands
- Offset, trim, extend, and fillet commands
- Explode and join commands

5. Creating and Editing Text:

- Text styles and properties
- Single-line and multiline text creation and editing
- Adding text to dimensions and annotations

6. Dimensioning and Annotations:

- Linear, aligned, and angular dimensioning
- Baseline, ordinate, and radial dimensioning
- Associative dimensions and editing techniques

7. Blocks and Attributes:

- Creating and inserting blocks
- Working with dynamic blocks
- Adding attributes to blocks for data extraction

8. Isometric Drawing:

- Setting up isometric drawing planes
- Drawing isometric objects and dimensions
- Use of isometric snap and isometric grid

9. 3D Modeling:

- Introduction to 3D modeling in AutoCAD
- Creating basic 3D objects (extrude, revolve, loft)
- Editing and modifying 3D objects

10. Section Views and Detailing:

- Creating section views in 2D and 3D models
- Generating detail views and breaks
- Adding hatching and text to sections and details

11. Plotting and Printing:

- Setting up layout tabs and viewports
- Plot styles and configurations

Indicative Contents

المحتويات الإرشادية

	<ul style="list-style-type: none"> • Plotting and printing drawings to scale
	<p>12. Collaboration and File Management:</p>
	<ul style="list-style-type: none"> • Working with external references (Xrefs) • File organization and management • Sharing and collaborating on AutoCAD drawings

<p>Learning and Teaching Strategies استراتيجيات التعلم والتعليم</p>	
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<p>Strategies</p>	<p>When working with AutoCAD, there are several strategies and approaches that can help optimize your workflow and enhance productivity. Here are some common strategies for using AutoCAD effectively:</p> <ol style="list-style-type: none"> 1. Familiarize Yourself with AutoCAD Interface and Tools: Take the time to understand the AutoCAD interface, menus, and tool palettes. Learn the keyboard shortcuts for frequently used commands to speed up your workflow. 2. Plan and Organize: Before starting a drawing, plan out the layers, linetypes, colors, and other settings you'll use. Establish a naming convention for layers and blocks to maintain consistency and ease of navigation within your drawings. 3. Utilize Drawing Templates and Standards: Create and use drawing templates that incorporate your preferred settings, layers, and title blocks. Adhere to industry standards and drawing conventions to ensure compatibility and ease of collaboration. 4. Take Advantage of Object Snap and Tracking: Object Snap (OSNAP) and Object Tracking (OTRACK) tools are essential for precise drawing. Use them to snap to key points, intersections, and centers, and enable object tracking for accurate alignment. 5. Master Efficient Drawing Techniques: Utilize drawing aids like ortho mode, polar tracking, and grid snap to maintain accuracy and alignment. Take advantage of copy, mirror, array, and other editing commands to speed up repetitive tasks. 6. Apply Dimensioning Best Practices: Follow dimensioning standards, use associative dimensions, and create dimension styles for consistency. Utilize dimensioning tools like grips and grips editing for quick adjustments. 7. Utilize Model Space and Layouts: Understand the difference between model space and paper space (layouts). Organize your drawing objects in model space and create multiple layouts for different views and plot configurations.
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8. Work with Blocks and Attributes: Create and use blocks for repetitive elements and standard symbols. Utilize attributes within blocks to add editable text and data to your drawings.
9. Employ External References (Xrefs): Use Xrefs to link and reference external drawings or files. This helps to keep your drawings modular, reduces file size, and facilitates collaboration.
10. Practice 3D Modeling Techniques: If working with 3D, familiarize yourself with AutoCAD's 3D modeling tools, such as extrusion, lofting, and revolving. Utilize 3D viewing and rendering options to visualize and present your designs.
11. Customize AutoCAD: Explore AutoCAD's customization options to tailor the software to your specific needs. Customize toolbars, menus, keyboard shortcuts, and create custom linetypes or hatch patterns.
12. Stay Updated and Continuously Learn: AutoCAD is regularly updated with new features and enhancements. Stay informed about new releases, participate in online forums, and continue learning to stay up to date with the latest tools and techniques.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	81	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	69	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
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	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	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	<ul style="list-style-type: none">• Introduction to AutoCAD interface and basic navigation• Understanding coordinate systems and units• Creating and editing basic geometric objects (lines, circles, arcs)
Week 2	<ul style="list-style-type: none">• Object snapping and tracking for precise drawing
Week 3	<ul style="list-style-type: none">• Using drawing aids like ortho mode, polar tracking, and grid snap
Week 4	<ul style="list-style-type: none">• Modifying and editing commands (move, copy, rotate, scale)• Working with grips for quick editing• Introduction to basic dimensioning techniques
Week 5	<ul style="list-style-type: none">• Creating and editing text in AutoCAD• Introduction to blocks and attributes• Using external references (Xrefs)
Week 6	<ul style="list-style-type: none">• Advanced dimensioning techniques and dimension styles
Week 7	<ul style="list-style-type: none">• Introduction to isometric drawing
Week 8	<ul style="list-style-type: none">• Advanced editing commands (trim, extend, fillet, chamfer)
Week 9	<ul style="list-style-type: none">• Creating and editing polylines and splines
Week 10	<ul style="list-style-type: none">• Creating and managing layouts and viewports• Plotting and printing options• Introduction to sheet sets
Week 11	<ul style="list-style-type: none">• Working with advanced layers and layer properties• Advanced editing techniques (offset, array, stretch)• Introduction to advanced annotation tools
Week 12	<ul style="list-style-type: none">• Advanced 3D modeling techniques (sweeps, lofts, blends)
Week 13	<ul style="list-style-type: none">• Introduction to lighting and camera settings
Week 14	<ul style="list-style-type: none">• Advanced plotting and publishing techniques
Week 15	<ul style="list-style-type: none">• Customizing AutoCAD interface and settings
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر



	Material Covered
Week 1	<ul style="list-style-type: none">• Creating and editing text in AutoCAD
Week 2	<ul style="list-style-type: none">• Introduction to blocks and attributes

Week 3	Using external references (Xrefs)
Week 4	<ul style="list-style-type: none"> Advanced 3D modeling techniques (sweeps, lofts, blends)
Week 5	<ul style="list-style-type: none"> Introduction to lighting and camera settings
Week 6	Customizing AutoCAD interface and settings
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	"Engineering Drawing and Design" by David A. Madsen and David P. Madsen	No
Recommended Texts	"Technical Drawing with Engineering Graphics" by Frederick E. Giesecke	No
Websites	Online platforms like Udemy, Coursera, LinkedIn Learning, and Khan Academy offer a variety of engineering drawing courses and tutorials. These resources often include video lessons, interactive exercises, and quizzes to help learners grasp engineering drawing concepts effectively.	

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

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	Ministry of Higher Education and Scientific Research - Iraq Northern Technical University Technical Engineering College Surveying Engineering Dep.	
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Geological engineering		Module Delivery	
Module Type	B		<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	TECK101			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	1	Semester of Delivery		2
Administering Department	Type Dept. Code	College	Type College Code	
Module Leader	Banaz Adeeb Fattah agha		e-mail	Banaz.adeeb@ntu.edu.iq
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	Ph.D.
Module Tutor	Zainab Hasan		e-mail	zainab_hasan_eng@uodiyala.edu.iq
Peer Reviewer Name	Raquim N. Zehawi		e-mail	raquim_zehawi@uodiyala.edu.iq
Scientific Committee Approval Date	15/06/2023	Version Number	1.0	

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

Co-requisites module	None	Semester	
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Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	The engineering geology component will serve as an introduction to geology, engineering geology, rock evaluation and geophysical methods and impact of geology on design and stability of engineering structures such as slopes, cuttings, quarries, tunnels, dams and bridges. The soil mechanics part will introduce soil classification, soil phase relationships, soil compaction, Darcy's law and water seepage through soils
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1- Study the formation of the earth sphere. 2- Initial structure of the earth. 3- Crystal system and how the minerals crystallized in different systems. 4- Different type of the minerals, with studies the optical and cohesive properties of the minerals. 5- Study the rocks and rock cycle. 6- Study the type of the rocks (igneous, sedimentary and metamorphic rocks). 7- Study the sedimentary processes (weathering, transportation and deposition). 8- Study the geological structures. 9- Study the dams and geology of dam sites. 10- Study tunnels, ground water and type of aquifers.
Indicative Contents المحتويات الإرشادية	application of the principles of Earth Sciences to ensure hazards associated with landslides or unfavourable soil and rock conditions are identified in engineering or environmental work. This paper gives an introduction to the field of engineering geology. Topics covered include: landslide processes and their recognition based on geomorphic evidence; an introduction to rock and soil mechanics; the role of the geological model in engineering geology; slope stability analysis; and site investigation methods.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	
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	To deliver this module; The main strategy that will be adopted 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 Examples and Revision problem in class with some activities that are interesting to the students.
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Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	47	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	28	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	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	2	10% (10)	4, 9	LO #1-2, and 3
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	Report	1	10% (10)	14	LO # 2 and 4
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-6
	Final Exam	2hr	40% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered

Week 1	Definition of geology, branches of geology, relation of geology to other sciences and their applications f the earth
Week 2	The relation between thegeology with surveying and its applications, the origin of land and how it was established
Week 3	Structure of the Earth's layers and their components, Earth's crust and Earth's meal, Earth's core and .its components, Layers of the Earth's mantle
Week 4	Crystals Definition of crystals, crystal faces, crystal forms, crystal varieties and crystal naming
Week 5	Minerals, definition of minerals, formation of minerals. The physical properties of minerals
Week 6	Rocks, definition of rocks, how rocks are formed in nature and types of rocks
Week 7	Igneous rocks, their definition, types of igneous rocks, characteristics of igneous rocks, crystallization .system of minerals from volcanic magma, classification of types of igneous rocks
Week 8	Sedimentary rocks, definition of sedimentary rocks, classification of sedimentary rocks, minerals of clastic and non-claustic sedimentary rocks, types of clastic and non-clastic rocks
Week 9	Metamorphic rocks definition, characteristics of metamorphic rocks. Types of metamorphism, classification of metamorphic rocks
Week 10	The cycle of rocks in nature, environments and conditions forming different rocks
Week 11	Mechanical properties of rocks, types of rock strengths, compressive strength and its calculation, tensile strength and methods of calculation
Week 12	Shear resistance of rocks and methods of calculation. Types of rock behavior, definition of stress and strain, relationship between stress and deformation
Week 13	Ground movements, types of ground movements, earthquakes and their identification, earthquake belts in the world, causes of earthquake formation, methods of measuring earthquakes, geological effects of the emergence of earthquakes
Week 14	Volcanoes, definition of volcanoes, how volcanoes are formed and their types, patterns of volcanoes, materials ejected by volcanoes, side effects after the emergence of volcanoes
Week 15	Volcanoes, definition of volcanoes, how volcanoes are formed and their types, patterns of volcanoes, materials ejected by volcanoes, side effects after the emergence of volcanoes
Week 16	Definition of geology, branches of geology, relation of geology to other sciences and their applications f the earth

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?

Required Texts	<ul style="list-style-type: none"> Khan, Mohammad Ibrahim. Industrial engineering. New Age International, 2004. 	Yes
Recommended Texts	<ul style="list-style-type: none"> Vaughn, Richard C. Introduction to industrial engineering. Iowa State Pr, 1985. Zuriarrain, Amador. "Maynard, HB: Manual de Ingeniería de la Producción Industrial (Book Review)." Boletín de Estudios Económicos 17 (1962): 646. Joseph C. Hartman, "Engineering Economy and the Decision Making Process" Prentice Hall, 2007 	No
Websites	https://www.uoanbar.edu.iq/eStoreImages/Bank/6298.pdf	

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>				



Ministry of Higher Education and
Scientific Research - Iraq
Northern Technical University
Technical Engineering College
Surveying Engineering Dep.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Geology of Minerals and Rocks		Module Delivery
Module Type	S		<input checked="" type="checkbox"/> Theory
Module Code	SUE102		<input type="checkbox"/> Lecture
ECTS Credits	6		<input type="checkbox"/> Lab
SWL (hr/sem)	150		<input checked="" type="checkbox"/> Tutorial
			<input type="checkbox"/> Practical
			<input type="checkbox"/> Seminar
Module Level	1	Semester of Delivery	1
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Banaz Adeeb Fattah agha	e-mail	Banaz.adeeb@ntu.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	Ph.D.
Module Tutor	Zainab Hasan	e-mail	zainab_hasan_eng@uodiyala.edu.iq
Peer Reviewer Name	Raquim N. Zehawi	e-mail	raqum_zehawi@uodiyala.edu.iq
Scientific Committee Approval Date	15/06/2023	Version Number	1.0

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

Co-requisites module	None	Semester	
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Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	<p>Rocks and minerals have properties that may be identified through observation testing; these properties determine how earth materials are used.</p> <p>Describe the physical properties of rocks and relate them to their potential uses.</p> <p>Relate the properties of rocks to the possible environmental conditions during their formation.</p>
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Students read about and discuss how rocks are formed. 2. Students identify observable properties that are related to how rocks are formed. 3. Students use properties related to how rocks are formed to sort rocks by classes: sedimentary, igneous, or metamorphic. 4. Students review and summarize the properties of the rocks they have observed. 5. Students compare rocks and minerals and discuss the similarities and differences between them. 6. Students observe and describe three minerals. 7. Students record and discuss their observations of minerals.
Indicative Contents المحتويات الإرشادية	<p>The study of the structure and characteristics of minerals is fundamental to the identification of igneous, metamorphic and sedimentary rocks, and the interpretation of the environment in which they formed. This free course introduces the polarising microscope, the main tool used to study minerals in rock thin sections, which remains the foundation of learning to recognise, characterise and identify rocks.</p> <p>Recognising minerals and understanding their structure is the basis for recognising rocks and interpreting microtextures to learn how they were formed. Evidence gathered by careful study of minerals in thin sections is a key part of the interpretation of igneous, metamorphic and sedimentary rocks.</p>

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	To deliver this module; The main strategy that will be adopted 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 Examples and Revision problem in class with some activities that are interesting to the students.
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Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	47	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	28	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	160		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4, 9	LO #1-2, and 3
	Assignments	2	10% (10)	3, 12	LO # 3-5
	Projects / Lab.		0% (0)		
	Report	1	10% (10)	14	LO # 2 and 4
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-6
	Final Exam	2hr	40% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري



	Material Covered
Week 1	Folds, definition of folds, plane of the fold and axis of the fold, types of folds
Week 2	fault. Fault definition, fault plane. Types of faults according to movement, and classification of faults according to displacement
Week 3	Joints, definition of joints, types of joints and how they are formed in rock layers, causes of folds and .faults
Week 4	.Stratigraphy and definition, properties of stratigraphy, principles of stratigraphy
Week 5	Fossils and their definition. Types and importance, characteristics of function fossils. And their uses .in arranging rock layers
Week 6	Correlation, definition of correlation. How to conduct a rock comparison and its elements, geological stratigraphic column
Week 7	.Rock outcrops and their identification, indications of rock outcrops, types of rock outcrops
Week 8	Weathering, definition of weathering, types of weathering, factors affecting mechanical weathering, .chemical weathering and factors affecting its formation
Week 9	Soil and its definition, stages of soil formation, sections of soil and its components, classification of soil according to the method of its formation, classification of soil according to porosity, permeability and water storage capacity
Week 10	.Erosion and know it, erosion factors, types and causes
Week 11	Rivers and their types, stages of rivers, geomorphological phenomena of river erosion, and .geomorphological phenomena of river sedimentation
Week 12	Definition of strike and slope of layers and methods of measuring them in the field, contour lines and .properties of contour lines
Week 13	Geological maps and their definition, how to draw geological maps and their elements, and how to identify folds and faults in geological maps
Week 14	Wind and its definition, geomorphological phenomena resulting from wind erosion, .geomorphological phenomena resulting from wind precipitation. And types of windswept
Week 15	Groundwater and its definition, sources of groundwater and its regions, porosity in rocks and their .types, definition of permeability and its formation in rocks. Types of underground water reservoirs
Week 16	Folds, definition of folds, plane of the fold and axis of the fold, types of folds

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	<ul style="list-style-type: none"> Khan, Mohammad Ibrahim. Industrial engineering. New Age International, 2004. 	Yes
Recommended Texts	<ul style="list-style-type: none"> Vaughn, Richard C. Introduction to industrial engineering. Iowa State Pr, 1985. Zuriarrain, Amador. "Maynard, HB: Manual de Ingeniería de la Producción Industrial (Book Review)." Boletín de Estudios Económicos 17 (1962): 646. Joseph C. Hartman, "Engineering Economy and the Decision Making Process" Prentice Hall, 2007 	No
Websites	https://www.uoanbar.edu.iq/eStoreImages/Bank/6298.pdf	

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>				

	Ministry of Higher Education and Scientific Research - Iraq Northern Technical University Technical Engineering College Surveying Engineering Dep.	
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MODULE DESCRIPTOR FORM
 نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	ENGLISH			Module Delivery	
Module Type	BASIC			Lecture Seminar	
Module Code	NTU100				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level	1	Semester of Delivery	1		
Administering Department	Type Dept. Code	College	Type College Code		
Module Leader	Dr.		e-mail	@ntu.edu.iq	
Module Leader's Acad. Title	Lecturer		Module Leader's Qualification	Ph.D.	
Module Tutor	None		e-mail	None	
Peer Reviewer Name			e-mail		
Review Committee Approval	01/06/2023		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. Developing Vocabulary and Terminology: Expand students' technical vocabulary and terminology specific to their field of study or profession, enabling them to accurately communicate technical concepts and ideas.2. Improving Reading and Comprehension Skills: Enhance students' ability to read and understand technical texts, such as manuals, reports, and research papers, by improving their reading comprehension strategies and techniques.3. Enhancing Writing Skills: Improve students' ability to write clear and concise technical documents, such as reports, proposals, and technical specifications, ensuring effective communication within technical contexts.4. Developing Listening and Speaking Skills: Enhance students' listening and speaking skills in technical settings, enabling them to comprehend technical discussions and participate actively in meetings, presentations, and technical conversations.5. Cultivating Effective Communication: Foster students' ability to communicate effectively in professional technical environments, emphasizing clarity, coherence, and appropriate language usage in various communication contexts.6. Promoting Cross-Cultural Communication: Develop students' awareness and understanding of cultural differences in technical communication, enhancing their intercultural competence and enabling effective communication with colleagues and clients from diverse cultural backgrounds
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none">1. Demonstrating Proficiency in Technical Vocabulary and Terminology: Acquire and demonstrate a strong command of technical vocabulary and terminology specific to the student's field of study or profession, enabling effective communication and comprehension of technical concepts.2. Comprehending and Analyzing Technical Texts: Read and comprehend various technical texts, including manuals, reports, and research papers, applying appropriate reading strategies to extract key information and analyze complex technical content.3. Producing Effective Technical Writing: Produce well-structured and coherent technical documents, such as reports, proposals, and technical specifications, demonstrating the ability to organize information

	<p>logically, use appropriate technical language, and convey technical concepts accurately.</p> <p>4. Engaging in Effective Oral Communication: Engage in effective oral communication in technical contexts, including participating in discussions, presenting technical information, and explaining complex concepts clearly and concisely.</p> <p>5. Adapting Language and Communication Styles: Adapt language and communication styles to suit different technical communication contexts, demonstrating an understanding of professional norms and cultural sensitivities in diverse technical environments</p>
<p>Indicative Contents المحتويات الإرشادية</p>	<ol style="list-style-type: none"> 1. Technical Vocabulary and Terminology: Introduction to technical vocabulary and terminology relevant to the student's field of study or profession. Focus on acquiring and practicing the use of technical terms, jargon, and specialized language. 2. Reading and Comprehending Technical Texts: Strategies for effectively reading and comprehending technical texts, such as manuals, research papers, and technical articles. Practice extracting key information, understanding technical concepts, and summarizing technical content. 3. Writing Technical Documents: Techniques for writing clear and concise technical documents, including reports, proposals, and technical specifications. Emphasis on organizing information, using appropriate language and structure, and ensuring clarity and coherence in technical writing. 4. Oral Communication in Technical Contexts: Developing oral communication skills specific to technical environments. Practice participating in technical discussions, presenting technical information, and explaining complex concepts effectively in oral presentations. 5. Documentation and Technical Reports: Understanding the structure and content of technical documentation, including technical reports and manuals. Practice creating well-organized and accurate technical documentation for various purposes. 6. Effective Presentation Skills: Developing effective presentation skills for technical topics. Focus on delivering clear and engaging presentations, using visual aids effectively, and effectively communicating complex technical concepts to a diverse audience. 7. Cross-Cultural Communication in Technical Settings: Exploring the importance of cross-cultural communication in technical environments. Discussing cultural differences and strategies for effective communication with colleagues and clients from diverse cultural backgrounds.
<p>Learning and Teaching Strategies استراتيجيات التعلم والتعليم</p>	
<p>Strategies</p>	

1. Lectures: Traditional lectures delivered by the instructor can provide an overview of key concepts, theories, and historical developments in the field. Lectures can help students build foundational knowledge and understand the broader context of the subject matter.
2. Discussions and Debates: Facilitating class discussions and debates allows students to actively engage with the course material, share their perspectives, and critically analyze different viewpoints. This can promote critical thinking, enhance communication skills, and encourage students to explore the complexities of human rights and democracy.
3. Case Studies: Using real-life case studies and examples can help students apply theoretical knowledge to practical situations. Analyzing specific cases can deepen understanding, highlight challenges, and stimulate discussions on the implementation of human rights and democratic principles in different contexts.
4. Group Projects and Presentations: Assigning group projects or presentations on specific topics within the course can encourage collaboration, research skills, and in-depth understanding. Working in groups allows students to explore different aspects of the subject matter and present their findings to the class.
5. Guest Speakers: Inviting guest speakers who are experts in the field of human rights, democracy, or international law can provide students with practical insights, real-world experiences, and diverse perspectives. Guest speakers can also share their expertise on specific topics or case studies related to the course.
6. Interactive Workshops and Simulations: Conducting interactive workshops or simulations can provide students with hands-on experiences related to human rights and democracy. This can include activities such as role-playing exercises, mock trials, or model United Nations sessions, allowing students to understand the practical application of concepts and engage in problem-solving.
7. Multimedia Resources: Incorporating multimedia resources such as videos, documentaries, and online platforms can enhance students' understanding and engagement with the course material. Multimedia resources can provide visual and audio representations of complex topics, showcase real-world examples, and stimulate discussions.
8. Independent Research and Critical Analysis: Assigning research projects or essays that require independent research and critical analysis can foster self-directed learning, research skills, and the ability to critically evaluate sources of information. This can deepen students' understanding of specific topics and encourage them to develop their own arguments and perspectives.
9. Assessments and Feedback: Providing regular assessments, such as quizzes, exams, or essays, can help students gauge their understanding of the material and receive feedback on their progress. Constructive feedback can guide students in improving their knowledge and skills throughout the course.

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Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	30	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	20	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	1.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (10)	2,5, 9,12	LO #1, 2, and 3
	Assignments	2	10% (10)	3, 10	LO # 3, 4, 5
	Projects / Lab.				
	Report	1	10% (10)	13	ALL
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-4
	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 Technical English <ul style="list-style-type: none"> • Overview of the module objectives, assessment criteria, and expectations • Introduction to technical vocabulary and terminology in the student's field of study or profession
Week 2	Reading and Comprehending Technical Texts <ul style="list-style-type: none"> • Reading strategies for technical texts, including skimming, scanning, and identifying key information • Comprehension exercises and discussions on selected technical articles or manuals

Week 3	<p>Writing Clear and Concise Technical Documents</p> <ul style="list-style-type: none"> • Understanding the structure and components of technical documents • Practice in organizing information, using appropriate language, and ensuring clarity in technical writing
Week 4	<p>Oral Communication in Technical Contexts</p> <ul style="list-style-type: none"> • Effective communication techniques for technical discussions and presentations • Role-play activities and group discussions on technical topics
Week 5	<p>Documentation and Technical Reports</p> <ul style="list-style-type: none"> • Exploring the purpose and elements of technical reports and documentation • Practice in writing technical reports based on provided scenarios or case studies
Week 6	<p>Presenting Technical Information</p> <ul style="list-style-type: none"> • Techniques for delivering effective presentations on technical topics • Preparing and delivering individual or group presentations on assigned technical subjects
Week 7	<p>Mid-term exam</p>
Week 8	<p>Cross-Cultural Communication in Technical Settings</p> <ul style="list-style-type: none"> • Understanding cultural differences in technical communication • Case studies and discussions on effective cross-cultural communication strategies in technical contexts
Week 9	<p>Review and Revision</p> <ul style="list-style-type: none"> • Consolidation of language skills and concepts covered in the previous weeks • Review exercises, quizzes, and revision activities to reinforce learning
Week 10	<p>Grammar and Language Focus</p> <ul style="list-style-type: none"> • Focus on specific grammar structures and language skills relevant to technical communication • Practice exercises and activities targeting grammar and language usage in technical contexts
Week 11	<p>Technical Vocabulary Expansion</p> <ul style="list-style-type: none"> • Building a broader technical vocabulary through activities, exercises, and word usage practice • Vocabulary acquisition exercises and discussions related to the student's field of study or profession

Week 12	Writing Technical Proposals <ul style="list-style-type: none"> Understanding the structure and components of technical proposals Practice in writing technical proposals for specific projects or scenarios
Week 13	Effective Technical Documentation <ul style="list-style-type: none"> Techniques for creating effective technical documentation, such as user manuals or technical guides Practice in drafting technical documentation and ensuring accuracy and usability
Week 14	Final Presentations and Wrap-up <ul style="list-style-type: none"> Final presentations by students on assigned technical topics Module review, reflection, and discussion of key takeaways and future learning opportunities
Week 15	Preparatory Week
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Headway 1-3	Yes
Recommended Texts		No
Websites		

APPENDIX:

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	FX - Fail	مقبول بقرار	(45-49)	More work required but credit awarded



(0 - 49)	F - Fail	راسب	(0-44)	Considerable amount of work required
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Note:

NB 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.



ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي

	<p>Ministry of Higher Education and Scientific Research - Iraq Northern Technical University Technical Engineering College Surveying Engineering Dep.</p>	
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MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	HUMAN RIGHTS AND DEMOCRACY		Module Delivery
Module Type	SUPPLEMENT		Lecture Seminar
Module Code	NTU100		
ECTS Credits	3		
SWL (hr/sem)	50		
Module Level	1	Semester of Delivery	2
Administering Department	Type Dept. Code	College	Type College Code
Module Leader	Dr. Osama		e-mail Osama@ntu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	None		e-mail None
Peer Reviewer Name		e-mail	
Review Committee Approval	01/06/2023	Version Number	1.0

Relation With Other Modules العلاقة مع المواد الدراسية الأخرى	
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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. Increase the student's knowledge of the theoretical and historical development of human rights and democracy. 2. Develop the student's analytical and critical skills regarding the current and future aspects of human rights and democracy. 3. Train the student on the importance of active participation in public life as a means to promote respect for human rights and engage in political and cultural activities. 4. Empower students to understand the significance of education and its role in promoting a culture of human rights and democracy, contributing to the building of a civilized society based on good governance, faith in human rights, education about them, and active participation in governance through free and fair elections 		
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Understand the historical development of human rights in ancient civilizations and their relevance to contemporary societies. 2. Analyze the positions of divine laws and religious texts on human rights and evaluate their impact on different societies. 3. Critically examine international constitutions and treaties related to human rights and assess their effectiveness in promoting and protecting human rights. 4. Evaluate the role and significance of the United Nations Charter in establishing a framework for the protection of human rights at the international level. 5. Assess the functions and contributions of international organizations in promoting and safeguarding human rights globally. 6. Explore the role of non-governmental organizations (NGOs) in advocating for and protecting human rights in different contexts. 7. Identify and explain the key safeguards and mechanisms in place to ensure the protection of human rights at the national and international levels. 8. Understand the concept of international humanitarian law and its 		

	<p>historical evolution, and its significance in times of armed conflict.</p> <ol style="list-style-type: none"> 9. Analyze the concept, origin, and evolution of democracy, and understand its principles and values. 10. Examine the relationship between Islam and democracy and evaluate different perspectives on the compatibility of these concepts. 11. Identify and describe the characteristics and features of a democratic system. 12. Differentiate between various forms and types of democracy and assess their strengths and weaknesses. 13. Analyze the political components of democracy, including the role of political parties and their influence on the democratic process. 14. Understand the relationship between democracy, education, and the role of education in promoting democratic values and citizenship. 15. Evaluate the role of media in a democratic system, including its influence on public opinion and the functioning of democratic institutions
<p>Indicative Contents المحتويات الإرشادية</p>	<ol style="list-style-type: none"> 1. Human Rights in Ancient Civilizations: <ul style="list-style-type: none"> ○ Overview of human rights in ancient Greek civilization ○ Exploration of human rights in ancient Roman civilization 2. Divine Laws and Human Rights: <ul style="list-style-type: none"> ○ Examination of the positions of divine laws and religious texts on human rights ○ Analysis of the impact of divine laws on human rights in different societies 3. Human Rights in International Constitutions: <ul style="list-style-type: none"> ○ Study of human rights provisions in international constitutions and charters ○ Comparison of the approaches taken by different countries in guaranteeing human rights in their constitutions 4. The United Nations Charter and Human Rights: <ul style="list-style-type: none"> ○ Overview of the United Nations Charter and its significance in promoting and protecting human rights ○ Analysis of specific articles and provisions related to human rights in the UN Charter 5. Human Rights in International Organizations: <ul style="list-style-type: none"> ○ Examination of the role and functions of international organizations in promoting and safeguarding human rights ○ Case studies on the work of specific international organizations in advancing human rights agendas 6. Human Rights in Non-Governmental Organizations:

- Exploration of the role and contributions of non-governmental organizations (NGOs) in the field of human rights
- Analysis of the challenges and opportunities faced by NGOs in advocating for human rights
- 7. Safeguards for Human Rights:
 - Study of legal and institutional safeguards for the protection of human rights at national and international levels
 - Examination of mechanisms such as national human rights institutions, ombudsman offices, and international human rights tribunals
- 8. International Humanitarian Law:
 - Introduction to the concept of international humanitarian law and its historical development
 - Analysis of the legal framework governing the conduct of armed conflicts and the protection of civilians
- 9. The Concept and Evolution of Democracy:
 - Understanding the concept, origin, and historical evolution of democracy
 - Exploration of different theoretical perspectives on democracy and its core principles
- 10. Islam and Democracy:
 - Examination of the relationship between Islam and democracy
 - Analysis of different interpretations and debates surrounding the compatibility of Islamic principles and democratic values
- 11. Characteristics of Democracy:
 - Identification and explanation of the key characteristics and features of a democratic system
 - Analysis of the importance of democratic principles such as popular sovereignty, rule of law, and political participation
- 12. Forms and Types of Democracy:
 - Exploration of different forms and types of democracy, including direct democracy, representative democracy, and hybrid systems
 - Assessment of the strengths and weaknesses of each form of democracy
- 13. Political Components of Democracy:
 - Study of the role of political parties and electoral systems in a democratic system
 - Analysis of the influence of interest groups, civil society organizations, and media on democratic processes
- 14. Democracy, Education, and Citizenship:
 - Examination of the relationship between democracy, education, and the role of education in promoting democratic values and active citizenship

	<ul style="list-style-type: none"> ○ Analysis of the importance of civic education and the development of critical thinking skills in a democratic society <p>15. Media and Democracy:</p> <ul style="list-style-type: none"> ○ Evaluation of the role of media in a democratic system, including the freedom of the press, media ethics, and media's role in shaping public opinion ○ Analysis of the challenges and opportunities posed by digital media in the context of democratic societies
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<p>Learning and Teaching Strategies استراتيجيات التعلم والتعليم</p>
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<p>Strategies</p>	<ol style="list-style-type: none"> 1. Lectures: Traditional lectures delivered by the instructor can provide an overview of key concepts, theories, and historical developments in the field. Lectures can help students build foundational knowledge and understand the broader context of the subject matter. 2. Discussions and Debates: Facilitating class discussions and debates allows students to actively engage with the course material, share their perspectives, and critically analyze different viewpoints. This can promote critical thinking, enhance communication skills, and encourage students to explore the complexities of human rights and democracy. 3. Case Studies: Using real-life case studies and examples can help students apply theoretical knowledge to practical situations. Analyzing specific cases can deepen understanding, highlight challenges, and stimulate discussions on the implementation of human rights and democratic principles in different contexts. 4. Group Projects and Presentations: Assigning group projects or presentations on specific topics within the course can encourage collaboration, research skills, and in-depth understanding. Working in groups allows students to explore different aspects of the subject matter and present their findings to the class. 5. Guest Speakers: Inviting guest speakers who are experts in the field of human rights, democracy, or international law can provide students with practical insights, real-world experiences, and diverse perspectives. Guest speakers can also share their expertise on specific topics or case studies related to the course. 6. Interactive Workshops and Simulations: Conducting interactive workshops or simulations can provide students with hands-on experiences related to human rights and democracy. This can include activities such as role-playing exercises, mock trials, or model United Nations sessions, allowing students to understand the practical application of concepts and engage in problem-solving.
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	<p>7. Multimedia Resources: Incorporating multimedia resources such as videos, documentaries, and online platforms can enhance students' understanding and engagement with the course material. Multimedia resources can provide visual and audio representations of complex topics, showcase real-world examples, and stimulate discussions.</p> <p>8. Independent Research and Critical Analysis: Assigning research projects or essays that require independent research and critical analysis can foster self-directed learning, research skills, and the ability to critically evaluate sources of information. This can deepen students' understanding of specific topics and encourage them to develop their own arguments and perspectives.</p> <p>9. Assessments and Feedback: Providing regular assessments, such as quizzes, exams, or essays, can help students gauge their understanding of the material and receive feedback on their progress. Constructive feedback can guide students in improving their knowledge and skills throughout the course.</p>
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Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	30	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعياً	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	20	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعياً	1.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	4	20% (20)	3,5, 8,10	LO #1, 2, 10 and 12
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.				
	Report	1	10% (10)	13	All
Summative assessment	Midterm Exam	2 hr	10% (10)	7	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	Human rights in ancient civilizations (Greek and Roman civilizations)
Week 2	The position of divine laws on human rights.
Week 3	Human rights in international constitutions.
Week 4	The United Nations Charter and its stance on human rights.
Week 5	Human rights in international organizations.
Week 6	Human rights in non-governmental organizations.
Week 7	Safeguards for human rights.
Week 8	The concept of international humanitarian law and its historical development.
Week 9	The concept, origin, and evolution of democracy.
Week 10	The relationship between Islam and democracy.
Week 11	Characteristics of democracy.
Week 12	Forms and types of democracy.
Week 13	Political components of democracy.
Week 14	Democracy and education.
Week 15	Preparatory Week
Week 16	Final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		Yes
Recommended Texts		No
Websites		

APPENDIX:

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	مقبول بقرار	(45-49)	More work required but credit awarded
	F - Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB 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.



ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي



Ministry of Higher Education and
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Technical Engineering College
Surveying Engineering Dep.



MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Plane Surveying		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	SUE101		
ECTS Credits	٦		
SWL (hr/sem)	225		
Module Level	1	Semester of Delivery	2
Administering Department	SUE	College	TECK
Module Leader	Sumaya Falih Hasan	e-mail	Sumaya.h.falih@ntu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	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	The module aims to provide students with a comprehensive understanding of Plane Surveying, Depending on the purpose and scope of the survey
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ul style="list-style-type: none">-Principles and practice of plane surveying and operation of surveying field equipment-Topics include distances, angles, and directions, differential leveling topographic surveys/mapping; volume/earthwork-Apply the knowledge of levelling in different operations in engineering projects, Summarize the principles and purpose of basic levelling in surveying
Indicative Contents المحتويات الإرشادية	is a typical method of determining land composition and topography that entails treating a specific area of land as if it were a flat plane.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	81	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	69	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	225		

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

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Differential Leveling: Rise & Fall method
Week 2	Computation Leveling: Rise & Fall method
Week 3	Errors of leveling; Systematic and Observational error
Week 4	Errors of leveling ; Earth Curvature
Week 5	Reciprocal Leveling
Week 6	Digital Leveling
Week 7	Longitudinal Levelling (Profile)
Week 8	Drawing Profiles
Week 9	Computation Longitudinal Levelling (Profile)
Week 10	Cross Sections
Week 11	Applications on Cross Sections

Week 12	Earthworks: Cut & Fill Volume
Week 13	Topographic Maps
Week 14	Contour Lines
Week 15	Calculating earthworks using Contour lines

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		No
Recommended Texts		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

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.



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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Principles of calculus		Module Delivery
Module Type	B		<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	TECK102		
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level	1	Semester of Delivery	٢
Administering Department	SUE	College	TECK
Module Leader	Maha Adnan Mutaab	e-mail	mahaadnan3@ntu.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	TECK300	Semester	5
Co-requisites module	TECK201	Semester	3

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p>Module Aims أهداف المادة الدراسية</p>	<p>The first years of all mathematics programs are designed to give students a thorough grounding in a wide spectrum of mathematical ideas, techniques and tools in order to equip them for the later stages of their course. During first year, as well as consolidating, broadening and extending core material from pre-University study, we initiate a cultural transition to the rigorous development of mathematics which is characteristic at University. Students will develop both their knowledge of mathematics as a subject and their reasoning and communication skills, through lectures, tutorials, seminars, guided self-study, independent learning and project work. This development is addressed in all of our first year modules, although different modules have a different emphasis.</p>
<p>Module Learning Outcomes مخرجات التعلم للمادة الدراسية</p>	<p>Functions and their properties.. Limits and continuity (axiomatic as definitions). The derivative (from first principles). l'Hopital's rule.</p> <p>Integral calculus. The definite integral. Anti-derivatives and the indefinite integral. Fundamental Theorem of Calculus. Rules and techniques for integration: partial fractions, by parts, by substitution. Improper integrals. Recursion formulae, the gamma function.</p> <p>Hyperbolic functions. Conic sections as polynomial equations of degree 2 in two variables. Relationships between trigonometric and hyperbolic functions, connections with Algebra: the complex numbers, Euler's formula.</p> <p>Parametric curves. Vector-valued functions. Arc length, speed, velocity.</p> <p>Functions of two variables. Surfaces as graphs, level curves. Partial derivatives: intuitive notion, statement of chain rule, examples. Directional derivatives derived from chain rule. Tangent plane as linear approximation to the surface at a point. Equality of mixed second partial derivatives, chain rule. The gradient vector: geometric interpretation, directional derivative, tangent planes. Vector fields. Implicit differentiation: of functions of one variable and of scalar fields; tangent lines to level curves. Application of chain rule to coordinate transformations.</p> <p>Double integrals. Surface area, volumes of revolution. Double integral as the volume under a surface. Evaluation over rectangular regions, as iterated integrals; changing order of integration. Integrals over more general regions and in polar coordinates; the Gaussian integral as example. Change of variables in double integrals, the Jacobian.</p> <p><i>Academic and graduate skills</i></p>

	Many of the techniques and ideas developed in this module are ones which graduates employed as mathematicians and in other numerate professions will use from day to day in their work. On top of this, students, through lectures, examples, classes, will develop their ability to assimilate, process and engage with new material quickly and efficiently.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1- Understanding the functions and limit. [20 hrs] 2- Understanding the dot and cross vectors and their applications . [25 hrs] 3- Understanding the derivative and partial derivative. [25 hrs] 4- Solving examples on numerical differentiation, integration and iterative techniques. [25 hrs] 5- Understanding integration techniques with their engineering applications. [25 hrs] 6- Solving examples integration and iterative techniques. [25 hrs] 7- Solving tutorials on area under curves and volumes. [20 hrs] 8- Studying for the quizzes, monthly exam, and the final. [30 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.
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Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	81	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	94	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
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% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects	1	10% (10)	12	LO # 10 and 12
	Report	1	10% (10)	13	LO # 5, 8 and 10

Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Cramer's Rule
Week 2	2D and 3D Vectors
Week 3	Application of vectors
Week 4	Equation of Line and Plane
Week 5	Limit
Week 6	Derivative Theory
Week 7	Partial Derivatives
Week 8	Chain Rule
Week 9	Minima and Maxima
Week 10	Applications of Minima and Maxima
Week 11	Integration
Week 12	Integration by Parts
Week 13	Integration by division
Week 14	Integration by Substitution
Week 15	Double Integrals
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	Wier, Hass and Giordano, <i>Thomas' Calculus</i> , 11th, 12th or 13th Edition. Pearson/Addison-Wesley..	Yes
Recommended Texts	T M Apostol, <i>Calculus</i> , Volumes I and II Wiley (S 7 APO).	No
Websites	Any website related to the principles of calculus and their engineering applications.	

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.



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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Surveying Fundamentals		Module Delivery
Module Type	C		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	SUE100		
ECTS Credits	9		
SWL (hr/sem)	225		
Module Level	1	Semester of Delivery	1
Administering Department	SUE	College	TECK
Module Leader	Sumaya Falih Hasan	e-mail	Sumaya.h.falih@ntu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	M.Sc.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date	01/06/2023	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	The module aims to provide students with a comprehensive understanding of Surveying Fundamentals, is the technique and science of accurately determining the terrestrial or three-dimensional position of points and the distances and angles between them..
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<p>Land surveying involves measuring and determining property boundaries. Property boundaries are the basis for all property transactions, including buying, selling, mortgaging and leasing. A secure and strong property market requires certainty in the location of property boundaries. The location of property boundaries and knowledge of matters that may affect land ownership requires specialized training.</p> <p>Registered land surveyors (cadastral surveyors) are the only surveyors in NSW who are legally able to carry out boundary surveys and represent details of property boundaries on plans or prepare subdivision and certain types of lease plans.</p>
Indicative Contents المحتويات الإرشادية	It's important to note these points are usually on the surface of the Earth, and they are often used to establish land maps and boundaries for ownership or governmental purposes.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	
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Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	225	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	99	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	225		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Surveying
Week 2	Measurements in surveying
Week 3	scales
Week 4	measuring distance by tapes
Week 5	Tape corrections
Week 6	Obstacles in chaining
Week 7	Areas Computation; Area of uniform and
Week 8	Areas Computation; Area of non-uniform figures.

Week 9	Compass Directions Computations I
Week 10	Directions Computations II
Week 11	Leveling Introduction
Week 12	Leveling Instruments
Week 13	Types of Sights FS, BS, IS
Week 14	Differential Leveling: H.I method
Week 15	Computation of: H.I method

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		No
Recommended Texts		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 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	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.



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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Workshop		Module Delivery
Module Type	S		Theory Lecture x Lab Tutorial Practical Seminar
Module Code	TECK104		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	UG1	Semester of Delivery	
Administering Department	Surveying engineering	College	TECK
Module Leader	كمال الدين فاضل حسن	e-mail	dr_kamal@ntu.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	Name	e-mail	E-mail
Scientific Committee Approval Date		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	تعريف وتعليم الطلبة على بعض الورش الهندسية التي يحتاجها في حياته المهنية الهندسية. Introduce and teach students to some of the engineering workshops that they need in their engineering career.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	١- التعرف على العدد اليدوية , التعرف على الطرق الصحيحة لتشغيل مكائن النجارة التعرف على انواع الخشب واستعمالاته ٢- طرق السباكة المختلفة انواع المعادن المستعملة بالسباكة تشكيل قالب عملي بسيط امام الطلبة باستعمال ادوات المقالب. ٣- والتعرف على انواع الاقران وطرق تشغيلها وشخصها بالمعادن وحسب التمرين وخارج المجول وتنظيفه. ٤ - ادوات القياس وكيفية استعمالها ادوات التخطيط واستعمالاتها. ٥ - القطع بالمنشار , المنشار اليدوي وكيفية تركيب واصلاح المنشار . ٦ - السمكرة داخل الورشة العدد اليدوية المختلفة انواع البليت المستخدم وكيفية قياس السمك . ٧ - الخراطة , المخزطة ومواصلاتها , وكيفية استخداماتها وملحقاتها وطرق تركيبها . ٨ - اللحام العدد والادوات المستخدمة بلحام القوس الكهربائي . ٩- الادوات المستخدمة بلحام الاوكس اميكي انواع المشاعل الغازات المستخدمة ومواصلاتها.
Indicative Contents المحتويات الإرشادية	النجارة , الامان والسلامة المهنية عند العمل بورشة النجارة , التعرف على العدد اليدوية , التعرف على الطرق الصحيحة لتشغيل مكائن النجارة .
	تنفيذ عمل بسيط وذلك باستعمال العدد والادوات النجارية المختلفة
	تنفيذ تمرين لقالب عمود بسيط
	السباكة الامان والسلامة المهنية عند العمل بورشة السباكة .
	البرادة السلامة المهنية في ورشة البرادة والأدوات.
	القطع بالمنشار , المنشار اليدوي وكيفية تركيب واصلاح المنشار .
	السمكرة السلامة المهنية داخل الورشة.
	الخراطة , السلامة المهنية لورش الخراطة.
	اللحام السلامة المهنية واحتياطات الامن.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	الاستراتيجية الرئيسية التي سيتم اعتمادها في تقديم هذه الوحدة هي تشجيع مشاركة الطلاب في التدريبات ، وفي الوقت نفسه صقل وتوسيع مهارات التفكير النقدي لديهم. سيتم تحقيق ذلك من خلال الفصول الدراسية والبرامج التعليمية التفاعلية ومن خلال النظر في نوع التجارب البسيطة التي تتضمن بعض أنشطة أخذ العينات التي تهتم الطلاب. 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
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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 للطالب خلال الفصل	١٠٠	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	٦
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	٨	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	١٠٠		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
	Projects / Lab. إسم الورشة				
	النجارة		%٢٠	١٤٢٤٣	
	السباكة		%١٤	٤٤٥	
	البرادة		%١٢	٦٤٧	
Summative assessment	السمكرة		%٢٠	٨٤٩٤١٠	
	الخرطة		%٢٠	١١٤١٢٤١٣	
	اللحام		%١٤	١٤٤١٥	
	Final Exam		%١٠٠		تقييم فصلي
Total assessment			100% (100 Marks)		تقييم فصلي

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	النجارة , الامان والسلامة المهنية عند العمل بورشة النجارة , التعرف على العدد اليدوية , التعرف على الطرق الصحيحة لتشغيل مكائن النجارة التعرف على انواع الخشب واستعمالاته
Week 2	تنفيذ عمل بسيط وذلك باستعمال العدد والادوات التجارية المختلفة
Week 3	تنفيذ تمرين لقالب عمود بسيط

Week 4	السباكة الامان والسلامة المهنية عند العمل بورشة السباكة طرق السباكة المختلفة انواع المعادن المستعملة بالسباكة تشكيل قالب عملي بسيط امام الطلبة باستعمال ادوات المقالب
Week 5	ينفذ الطلبة تمرين من قطعة واحدة والتعرف على انواع الاقران وطرق تشغيلها وشحها بالمعادن وحسب التمرين وخارج المجول وتنظيفه
Week 6	البرادة السلامة المهنية فى ورشة البرادة ادوات القياس وكيفية استعمالها ادوات التخطيط واستعمالاتها المناكى وانواعها وطرق ربط المشغولات تنفيذ تمرين بسيط باستعمال العدد والادوات
Week 7	القطع بالمنشار , المنشار اليدوى وكيفية تركيب واصلاح المنشار , عملية الثقب , انواع المثاقب , انواع الابراغى وكيفية اجراء عملية الثقب
Week 8	السمكرة السلامة المهنية داخل الورشة العدد اليدوية المختلفة انواع البليت المستخدم وكيفية قياس السمك تنفيذ تمرين يدوي بسيط لعمليات سمكرة بسيطة
Week 9	كيفية تقويس البليت , حساب الانفراد للمشغولات , تنفيذ تمرين الاسطوانة
Week 10	تنفيذ تمرين بسيط لقالب حديدي
Week 11	الخراطة , السلامة المهنية لورشة الخراطة , المخرطة ومواصفاتها , وكيفية استخداماتها وملحقاتها وطرق تركيبها , تشغيل المخرطة , انواع اقلام الخراطة
Week 12	تنفيذ تمرين خراطة بسيطة مع استخدام ادوات القياس
Week 13	كيفية عمل الاسنان الداخلية والخارجية , كيفية اختيار الفراغات , تنفيذ تمرين خراطة متكامل
Week 14	اللحام السلامة المهنية واحتياطات الامن العدد والادوات المستخدمة بلحام القوس الكهربائى, انواع الاقطاب المستخدمة وطريقة تركيبها واختيارها , تنفيذ تمرين لحام بسيط
Week 15	الادوات المستخدمة بلحام الاوكس اميكي انواع المشاعل الغازات المستخدمة ومواصفاتها , اسلاك اللحام وانواعها وقياساتها , المواد المساعدة , تنفيذ تمرين لحام اوكسي استيلين , تنفيذ تمرين لقالب عمود باستعمال البليس

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	<p>1-Serope Kalpajian and others: Manufacturing and engineering technology, fifth edition,2001 Prentice Hall.</p> <p>2 - Manufacturing and engineering technology, sixth edition in SI units,2009 Prentice Hall.</p> <p>3 – Rajender Singh: Introduction to basic manufacturing processes and workshop technology; 2006 New age international, India.</p> <p>4- Andrew Y. C. Nee: Handbook of Manufacturing Engineering andTechnology, Springer-Verlag London 2015.</p>	No
Recommended Texts		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

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.