	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	APPLICATIONS OF STATISTICS IN CIVIL ENGINEERING		**Module Delivery**	
Module Type	BASIC		**Theory lecture**	
Module Code	CIV025			
ECTS Credits	7			
SWL (hr/sem)	175			
Module Level	1	**Semester of Delivery**	2	
Administering Department	Civil engineering	**College**	Engineering	
Module Leader	sally Muwafaq Talib	**e-mail**	Sallay.muwafaq@uowa.edu.iq	
Module Leader's Acad. Title	Assist. Lect.	**Module Leader's Qualification**	Msc	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Review Committee Approval	2024/9/26	**Version Number**	1.0	

Relation With Other Modules

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. To develop problem solving skills and understanding of statistical basics. 2. To understand different types of statistical datasets and how represent it in different ways, such as, tables and graphs. 3. To describe the datasets using numerical ways, such as, central measurements, the datasets distribution and dispersion. 4. To understand the basics of the probability theory. 5. To understand probability distributions, for example, discrete probability distribution, normal distribution, and binomial distribution. 6. To understand the basic of regression analysis and correlations, with more focus on the linear regression.
Module Learning Outcomes	1. Understanding the definition of statistics and statistical data collection methods. 2. Representing datasets in graphical and tables forms. 3. Determining central measurements, mean, mode and median of a dataset. 4. Determining standard deviation, variance, and variance coefficient of a dataset. 5. Describing a dataset using its quartiles, percentiles and deciles. 6. Defining the shape of a dataset's curve using kurtosis and skewness. 7. Defining the probability theory. 8. Explaining conditional probability. 9. Describing events' types, and describing mutually exclusive events. 10. Explaining the permutations and combinations, multiplication base and summation base in the probability theory. 11. Defining sampling distribution of computational media. 12. Understanding discrete probability distributions, binomial distribution. 13. Understanding polynomial distribution, Poisson distribution. 14. Understanding related Probability distributions, the normal distribution. 15. Understanding correlation and linear regression.
Indicative Contents	Indicative content includes the following. The definition of statistics and statistical data collection methods. Representing datasets in graphical (i.e. histograms, pie charts, ogives, polygons) and tables (i.e. frequency distribution tables) forms. Determining central measurements y using mean, mode, midrange and median. Determining standard deviation, variance, and variance coefficient of a dataset. Describing a dataset using its quartiles, percentiles and deciles. Defining the shape of a dataset's curve using kurtosis and skewness. Defining the probability theory. Explaining conditional probability. Describing events' types, and describing mutually exclusive events. Explaining the permutations and combinations, multiplication base and summation base in the probability theory. Defining sampling distribution of computational media.

	Understanding discrete probability distributions, binomial distribution. Understanding polynomial distribution, Poisson distribution. Understanding related Probability distributions, the normal distribution. Understanding correlation and linear regression.

Learning and Teaching Strategies

Strategies	The main strategy that will be adopted in delivering this module is due to the students' contribution in class discussions and problem solving, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive explaining the module basics and by considering types of examples that are interesting to the students.

Student Workload (SWL)

Structured SWL (h/sem)	93	**Structured SWL (h/w)**	6
Unstructured SWL (h/sem)	82	**Unstructured SWL (h/w)**	5
Total SWL (h/sem)	175		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO # 1, 2; 6 and 7
	Assignments	2	10% (10)	2, 12	LO # 1,2,3,4; 5, 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)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Introduction of statistic, Identify sources, Statistical terms, selections of information.
Week 2	Statistical distributions, Frequency Tables Represent the distributions graphically
Week 3	Measures of central tendency (mean, mode, and median), the geometric mean, harmonic mean. Compared of Measures of central tendency (mean, mode, and median)
Week 4	Change and dispersion measurements; standard deviation, variance and coefficient of

	variation.
Week 5	Measures of position (percentiles, deciles, quartiles)
Week 6	Measures of shape (kurtosis and Skewness).
Week 7	Principles of the theory of probability (Introduction), Vin Graph. Intersection and Union in the theory of probability
Week 8	Conditional probability
Week 9	Independent events, mutually exclusive events
Week 10	permutations and combinations, Multiplication base and summation base
Week 11	Sampling distribution of computational media
Week 12	Discrete probability distributions, binomial distribution
Week 13	Polynomial distribution, Poisson distribution
Week 14	Related Probability distributions, the normal distribution
Week 15	Correlation and linear regression
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	لا يوجد
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Mann, Prem S. "INTRODUCTORY STATISTICS", John Wiley &Sons, 5th edition, 2003. 2. د. نعمة حمد عمارة وسحر شاكر توفيق: الإحصاء وتطبيقاته الهندسية	Yes
Recommended Texts	Bluman, Allan G. "Elementary Statistics A Step by Step Approach", Mc Grew Hill, 2012	No
Websites		

APPENDIX:

GRADING SCHEME				
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:

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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	COMPUTER SCIENCE		**Module Delivery**	
Module Type	BASIC		**Theory** **lecture** **lab**	
Module Code	UoW022			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	1	**Semester of Delivery**	2	
Administering Department	Civil engineering	**College**	Engineering	
Module Leader	Thaer Taher Atshan	**e-mail**	thaertahir@uowa.edu.iq	
Module Leader's Acad. Title	Assistant Lecturer	**Module Leader's Qualification**	M.Sc.	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Review Committee Approval	2024/9/26	**Version Number**	2024	

Relation With Other Modules

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	1. This course aims to define students everything related to the computer in terms of its physical parts or operational programs. 2. Study the Windows operating program, what are its parts, and how to deal with it. 3. Studying the most used application software on computers, which is the Office program with all its parts such as Word, Excel and PowerPoint. 4. Studying the BASIC language in writing programs and how to apply them in a way that suits the specialty of civil engineering. 5. Practical application of all that we study on the computer in a way that is appropriate for civil engineering.
Module Learning Outcomes	1. Define Types of Computers, Computers Operations, Computer Hardware, System Units, Memory Speed, Types of Memory, Computer Software. 2. Define Numbering Systems, Decimal System, Binary system, Octal System, Hexadecimal System. 3. Define Windows 7 and Microsoft office2010 4. Programming in QBasic 5. Programming Control Statements and Loop in QBasic 6. Programming Matrices in QBasic
Indicative Contents	Indicative content includes the following. Introduction to Computers, Types of Computers, Computers Operations, Computer Hardware, System Units, Memory Speed, Types of Memory, Computer Software [10 hrs]. Numbering Systems, Decimal System, Binary system, Octal System, Hexadecimal System [6 hrs] Windows 7 (The Desktop, Task Bar, The start menu, The Search Box, Libraries, Control Panel.) [6 hrs] Microsoft office2010 (Microsoft word, Microsoft exel, Microsoft PowerPoint) [12 hrs] Programming in QBasic: Introduction, Starting QBASIC , Keys in Qbasic, QBASIC language Contents Constants and Variables In QBASIC [12 hrs] Arithmetic Expression and Library Functions, Flow Charts [7 hrs] Statements in QBASIC. [16 hrs] Control Statements and Loop [16 hrs] Matrices [10 hrs]

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

Student Workload (SWL)			
Structured SWL (h/sem)	48	**Structured SWL (h/w)**	6.5
Unstructured SWL (h/sem)	27	**Unstructured SWL (h/w)**	4
Total SWL (h/sem)	75		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, 3 and 6
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 5 and 6
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	-	0% (10)	-	-
Summative assessment	**Midterm Exam**	2 hr	20% (10)	7	LO # 1-6
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		100%(100)

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Introduction to Computers (Types of Computers, Computers Operations, Computer Hardware), System Units, Memory Speed, Types of Memory, Computer Software and Numbering Systems.
Week 2	Windows 7
Week 3	Windows 7

Week 4	Microsoft office
Week 5	Microsoft office
Week 6	Microsoft office
Week 7	Programming in QBasic: Introduction, Starting QBASIC , Keys in Qbasic QBASIC language Contents Constants and Variables In QBASIC
Week 8	Arithmetic Expression and Library Functions, Flow Charts
Week 9	Statements in QBASIC)Rem Statement, Cls Statement, Const Statement, Let Statement, Read-Data Statement, Input statement, Print Statement, End Statement)
Week 10	Control Statements (GOTO Statement, ON…GOTO Statement, IF…THEN Statement, Compound IF … then, Counter Instructions, The For and Next statements)
Week 11	Loops and Loops type
Week 12	Loops and Loops type
Week 13	Multiplication for Matrices& Algebraic Sum for Matrices
Week 14	Matrices' Variables
Week 15	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Lab 1: Application for Microsoft word2010
Week 2	Lab 2: Application for Microsoft exel2010
Week 3	Lab 3 Application for Microsoft PowerPoint 2010
Week 4	Lab 4: Application for writing in QBasic.
Week 5	Lab 5: Application for writing control statements in QBasic.
Week 6	Lab 6: Application for writing Loops in QBasic.
Week 7	Lab 7: Application for writing Matrices in QBasic.

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	• البرمجة بلغة البيسك ل مهدي فاضل موسى	Yes

Recommended Texts	• QBASIC Programming Without Stress by Akinola Adeniyi • A Manual for BASIC BY Trustees • Beginner's Programming Tutorial in QBasic by susan A.K. • Computer Programming in QBasic by Felix lyme • PROGRAMMING IN QBASIC by Lubna Zaghlul • Practical Computing with QBASIC by C. K. Ayo • نسخة معتمدة من اليونسكو ICDL الرخصة الدولية لقيادة الحاسب الآلي • اساسيات البرمجة بلغة البيسك ل ميخائيل رياض • برمجة الكويك بيسك ل أسامة الخ	No.
Websites	-	

APPENDIX:

GRADING SCHEME				
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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	CONSTRUCTION MATERIALS	**Module Delivery**	
Module Type	CORE	**Theory** **Lecture** **Lab**	
Module Code	ENG016		
ECTS Credits	7		
SWL (hr/sem)	175		
Module Level	1	**Semester of Delivery**	1
Administering Department	Civil Engineering	**College**	Engineering
Module Leader	Hibatallah abd alameer	**e-mail**	Hiba.allah@uowa.edu.iq
Module Leader's Acad. Title	Assist lecturer	**Module Leader's Qualification**	Msc.
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Review Committee Approval	2024/9/26	**Version Number**	1.0

Relation With Other Modules

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	The course aims to: 1. Introduce students to the basic concepts of different building materials. 2. Identify the raw materials and manufacturing methods of building materials Identify the engineering properties of building materials. 3. Identify the requirements of standard specifications for the use of building materials. 4. Identify the laboratory tests that are conducted on building materials for quality control purposes. 5. Identify the different uses of materials in the construction industry.
Module Learning Outcomes	1. Learn about the classification of materials in general and their most important properties. 2. Learn about the mechanical properties of materials in general and solve examples related to them. 3. Learn about the definition of bricks, their classification, their most important types, raw materials and manufacturing methods. 4. Learn about the physical properties of bricks and the most important tests conducted on bricks and learn about the requirements of Iraqi specifications. 5. Learn about other types of building units such as bricks, concrete blocks, cellular concrete blocks, and the raw materials used in their manufacture, manufacturing methods and engineering properties. 6. Learn about the types of stones used in construction, their formation methods, methods of preparation and the most important engineering properties. 7. Learn about the most important binding materials such as cement, gypsum and lime, their manufacturing methods, the most important tests conducted on them and their most important physical and chemical properties. 8. Learn about the most important types of tiles used in floors, manufacturing methods, raw materials used in the industry, the most important tests and requirements of the Iraqi specification
Indicative Contents	Indicative content includes the following: 1. Overview of Materials and Building/Structural Types (Historic, Current) , Principal ,Properties of Building Materials, Physical Properties (Density, Bulk Density, Porosity, Water Permeability, etc) Mechanical Properties (Strength, Hardness, Elasticity, Plasticity) [10 hrs] 2. Structural Clay Products (Clay and its Classification, Physical Properties, Bricks, Classification and Characteristics of Good Bricks, etc) [8] 3. Other type of building units such as concrete blocks , sand lime bricks autoclaved aerated concrete blocks , etc… [8 hrs]

	4. Rocks and Stones (Classification of Rocks, Quarrying of Stones, Uses of Stones, Characteristics of good Building Stone, Deterioration of Stones, Durability of Stones, Preservation of Stones, Selection of Stones, Common Building Stones, Artificial Stones, Applications of Stones) [4 hrs] 5. Types of Trees for Timber Production, Structure of a Tree, Processing of Timber, Preservation of Timber, Wood Defects as They Affect Wood Strength, Mechanical 6. Properties of wood.[8 hrs] 7. Ferrous Metals and Alloys (Iron, Cast Iron, Wrought Iron, Steel, Rolled Steel, Reinforcing Steel Bars , stress stain diagram [8 hrs]

Learning and Teaching Strategies

Strategies	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 types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)

Structured SWL (h/sem)	93	**Structured SWL (h/w)**	6.0
Unstructured SWL (h/sem)	82	**Unstructured SWL (h/w)**	5.5
Total SWL (h/sem)	175		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1, #2 and #10
	Assignments	2	5% (5)	2 and 12	LO #3, #4 and #6, #7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	5% (5)	13	LO #5, #8 and #10
Summative assessment	**Midterm Exam**	2hr	20% (20)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Classified of Engineering Materials and its properties, Mechanical properties of materials, type of forces.
Week 2	Exercises on Mechanical properties of materials.
Week 3	Clay Brick, Definition, Classification of clay brick , Raw materials, Production methods of clay brick, Stages of clay brick industry and type of furnaces used ,
Week 4	Engineering properties of clay brick and tests of brick,
Week 5	Other types of brick (Concrete Blocks and sand-lime brick , autoclave aerated concrete blocks)
Week 6	Building Stone: Definition, Geological Classification of stone, Preparation of stone, Utilization, Engineering properties of stone
Week 7	Mid-term Exam
Week 8	Tiles: Definition, Types of tiles, Terrazzo tiles, Ordinary tiles , Raw materials and industry, Engineering properties of tiles, Utilization of tiles
Week 9	Bonding materials: Definition, Types of bonding materials, Utilization of bonding materials, Cement Mortar, Definition, Utilization, Properties, Lime: Definition, Classification, Raw material and industry
Week 10	Utilization of lime, Properties of lime mortar, and cement and lime mortar, Gypsum: Definition, Classification, Raw materials and industry, Utilization of Gypsum, Properties of gypsum of mortar, Tests of gypsum
Week 11	Cement: Definition, Raw materials and industry, Utilization, Chemical composition of cement and its physical properties, Types of Portland and non-Portland cement.
Week 12	Wood: Definition, Types if wood, Utilizations of wood in construction , Engineering properties of wood, methods of drying and chemical treatment of wood , Dimensional changes of wood, Defect of wood, Tests of wood.

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1&2	Introduction to The Construction Materials Lab , Student Responsibilities ,How to write report .
Week 3&4	Tests of Clay Bricks : Dimensions Test and Water Absorption Test on Bricks
Week 5&6	Tests of Clay Bricks: Determination of Efflorescence of bricks and Compressive Strength of Bricks
Week 7&8	Tests of Tiles : Dimension and Shape Test and Modulus of rupture test of tile

Week 9&10	Tests of Tiles: Water Absorption Test of Tiles (Total absorption Test and Face absorption of tiles)
Week 11&12	Gypsum test: Gypsum fineness and Standard Consistency of Gypsum
Week 13&14	Gypsum test: Setting time of gypsum and Compressive strength of gypsum

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	1.Building Materials,S. K. Duggal 3rd ed., 2008 ,New Delhi.	
Recommended Texts	2.Civil Engineering Materials, N. Jackson and V. K. Dhir , 5th ed. 1996.	No
Websites	1.Materials for civil and construction engineers, M. S.	

APPENDIX:

GRADING SCHEME				
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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	ENGINEERING DRAWING		**Module Delivery**	
Module Type	BASIC		**Theory** **lecture** **lab** **practical**	
Module Code	ENG014			
ECTS Credits	5			
SWL (hr/sem)	125			
Module Level	1	**Semester of Delivery**	1	
Administering Department	Civil engineering	**College**	Engineering	
Module Leader	Hibatallah abd alameer	**e-mail**	Hiba.allah@uowa.edu.iq	
Module Leader's Acad. Title	Assistant Lecturer	**Module Leader's Qualification**	M.Sc.	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Review Committee Approval	2024/9/26	**Version Number**	1.0	

Relation With Other Modules

Prerequisite module	None	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	The module aims to provide students with a solid understanding of the fundamental concepts and techniques of linear algebra. This includes the study of linear equations. Students will also learn how to apply these concepts to solve real-world problems in various fields such as engineering, physics, economics, and computer science. By the end of the module, students should be able to manipulate and analyze mathematical models using linear algebraic tools and communicate their findings effectively.
Module Learning Outcomes	1. This course discusses the fundamental concepts of engineering graphics. It gives also an introduction to computer graphics using CAD software. 1 . aimed to covered 2. Drawing conventions such as standards, line types and dimensioning 3. Drawing of inclined and curved surfaces 4. Deducting the orthographic views from a pictorial 5. Drawing full and half sections , deducting an orthographic view from given two views 6. Pictorial sketching (isometric and oblique)
Indicative Contents	Recognize the value of engineering graphics as a language of communication.. . Comprehend and deduce orthographic projections of an object. 4. Visualize wide variety of objects and drawing the missing views. 5. Comprehend and deduce section views. 5
Learning and Teaching Strategies	
Strategies	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 types of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)			
Structured SWL (h/sem)	93	**Structured SWL (h/w)**	6.0
Unstructured SWL (h/sem)	82	**Unstructured SWL (h/w)**	5.5
Total SWL (h/sem)	150		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	8 % (8)	5 and 10	LO #3, 4, 5 and 6
	Assignments	1	2 % (2)	14	LO # 3, 4, 5,6 and 7
	Projects / Lab.	15	15% (15)	Continuous	All
	Report	15	15% (15)	Continuous	All
Summative assessment	Midterm Exam	2hr	20% (20)	7	LO # 1-5
	Final Exam	3hr	40% (40)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Lab. Syllabus)

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

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	1. New Headway Plus Intermediate Student Book, Liz and Hohn Soars, 2006, Oxford University Press. 2. Writing in Paragraphs, Dorothy E Zemach and Calos Islam, 2010, Macmillan.	yes
Recommended Texts		No
Websites	News - Biomedical Engineering at the University of Michigan (umich.edu) Websites TED-Ed – YouTube BBC Learning English - 6 Minute English	

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Introduction and Instruments
Week 2	Kufic letters1
Week 3	Principles of putting dimensions: Basic dimensions, the true dimensions, extension lines, lines of dimension
Week 4 to 6	Geometric construction: Draw an arc touches two intersecting lines, draw arc touches two brackets, draw an arc touches a straight and passes a point, draw an ellipse, draw a hexagon, draw the quinary, draw shape with eight faces, sketching inverted arc, identify points of contact
Week 7 to 9	Projections The theory of projection, the projection lines, oblique projection level, the vertical projection system, multiple projections, conclusion the third projected, draw curves and oblique surfaces on the projections
Week 10 to 11	Isometric Projection by the first even angles, projection by the third even angles, draw circles on dimensional figure, draw oblique surfaces on dimensional figure, Isometric drawing and its application
Week 12	Sections: Introduction, types of sections and symmetrical sections, cutting lines, double sections, elevations sectioned, shapes sectioned
Week 13	
Week 14	CAD Drawing Introduction to AutoCAD software, control page in AutoCAD software, types of coordinate, the command line and applications, the modified commands, the help orders in drawing, the commands circle, rectangle, offset, the command layers array, scale and aligned, the command arc with all options, the command polyline with options , types of dimensions with application examples, the command text and its types, preparing and printing options with examples
Week 14	
Week 15	

APPENDIX:

GRADING SCHEME				
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
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Fail Group (0 – 49)	**FX** – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
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	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	ENGINEERING GEOLOGY		**Module Delivery**	
Module Type	BASIC		**Theory lecture**	
Module Code	CIV026			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level	1	**Semester of Delivery**	2	
Administering Department	Civil engineering	**College**	Engineering	
Module Leader	Ghadeer Haitham Hasan	**e-mail**	ghadeer.haitham@uowa.edu.iq	
Module Leader's Acad. Title	Assist. Lect.	**Module Leader's Qualification**	Msc	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Review Committee Approval	2024/9/26	**Version Number**	1.0	

Relation With Other Modules

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	1. To develop a meaningful link between geology and civil engineering structures in context of site investigations and the project requirements. 2. To understand the behavior of different geomaterial, such as, rocks and soils. 3. To identify the occurrence, types, importance, and rules of groundwater in civil engineering context. 4. This course deals with the basic geological investigations required for megastructures, for example, dams. 5. To understand maps' basics and plotting cross sections for different subsurface settings. 6. To understand basics of geophysical techniques and geophysical site investigations.
Module Learning Outcomes	1. Recognizing how engineering geology works with different civil engineering disciplines. 2. Listing the various types of rocks and their formation. 3. Listing the various types of soils and their formation. 4. Representing the types, and rules of groundwater on civil engineering projects. 5. Summarizing what is meant by geological investigations for tunnels as megastructures 6. Summarizing what is meant by geological investigations for dams as megastructures. 7. Identifying the importance of physical properties of rocks on rocks' behavior. 8. Identifying the importance of mechanical properties of rocks on rocks' behavior. 9. Explaining seismic wave's types and how earthquake events can effect on civil engineering projects. 10. Defining different types of rock slope failures. 11. Describing variations in topography using contour maps, plotting contour maps 12. Describing subsurface attitude (i.e. horizontal layers) using two dimensional cross-sections. 13. Understating geophysics principles, data collection, and its importance for indirect geophysical site investigations. 14. To explain seismic surveys' types and techniques, their advantages and limitations. In addition to know the geotechnical parameters that can be determined using seismic methods.

	15. To explain electrical resistivity basics and applications for site investigations.
Indicative Contents	1. Indicative content includes how to Recognizing engineering geology subject works with different civil engineering disciplines , listing the various types of rocks and their formation and the various types of soils and their formation Representing the types, and rules of groundwater on civil engineering projects. Summarizing what is meant by geological investigations for megastructures such as dam or tunnels. Explaining seismic wave's types and how earthquake events can effect on civil engineering projects, defining different types of rock slope failures. Describing variations in topography using contour maps, plotting contour maps, describing subsurface attitude (i.e. horizontal layers) using two dimensional cross-sections. Understating geophysics principles, data collection, and its importance for indirect geophysical site investigations.
Learning and Teaching Strategies	
Strategies	The main strategy that will be adopted in delivering this module by refining and expanding the students' knowledge and critical thinking skills. This will be achieved through delivered classes, discussions, interactive tutorials, and by considering types of real case scenarios involving some examples of civil construction around the world that are interesting to the students, for example, Al-Jumeirah palm tree-Dubai.

Student Workload (SWL)			
Structured SWL (h/sem)	63	**Structured SWL (h/w)**	4
Unstructured SWL (h/sem)	37	**Unstructured SWL (h/w)**	2
Total SWL (h/sem)	100		

Module Evaluation					
		Time/ Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10%(10)	5,10	LO # 3,4,5; 6, and 7
	Assignments	2	10%(10)	2, 12	LO # 1,2; 8,9 and 10
	Projects / Lab.	1	10%(10)	Continuous	All
	Report	1	10%(10)	13	LO All
	Midterm Exam	2hr	50%(50)	7	LO # 1-8

Summative assessment	**Final Exam**	2hr	60%(60)	16	All
Total assessment			100%(100)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	An introduction to engineering geology and its importance for civil engineers
Week 2	Types of rocks
Week 3	An introduction to soil and soil types
Week 4	Groundwater
Week 5	Geological investigations for tunnels
Week 6	Geological investigations for dams and reservoirs
Week 7	Rock mechanics I
Week 8	Rock mechanics II
Week 9	Earthquake
Week 10	Rock slope stability
Week 11	Maps I (contour maps, and geological maps)
Week 12	Maps II (cross sections for horizontal and inclined strata)
Week 13	Geophysics I (An introduction to geophysics)
Week 14	Geophysics II (seismic method)
Week 15	Geophysics III (electrical resistivity method)
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Not available

Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Engineering Geology , university of Basrah , 2001	Yes
Recommended Texts	1- Practical engineering geology, Steve Hencher, Spon press. An introduction to applied and environmental geophysics, John M. Reynolds, Wiley-Blackwell.	No
Websites		

APPENDIX:

GRADING SCHEME				
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:				

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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	HUMAN RIGHTS AND DEMOCRACY	**Module Delivery**	
Module Type	BASIC	**Theory lecture**	
Module Code	UoW012		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	1	**Semester of Delivery**	1
Administering Department	Civil Engineering	**College**	Engineering
Module Leader	Qassim Ali Husain	**e-mail**	Qassim.Ali @uowa.edu.iq
Module Leader's Acad. Title	Assistant Professor Dr.	**Module Leader's Qualification**	Ph.D.
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Review Committee Approval	2024/9/26	**Version Number**	1

Relation With Other Modules

Prerequisite module	None	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	•Study and review the historical and human events that led to the crystallization of human trends to establish laws and systems that approved human rights and freedoms. •Making the student understand that achieving human rights and freedom is the way to elevate and advance societies, as enjoying them enhances human skills and abilities that he uses to serve his country, its progress and civilization. •Developing the student's ability, skills and legal cultures. A- Cognitive objectives: .1Making the student understand and educate the principles of human rights and his right to enjoy freedom in all areas of life. .2Making the student understand the methods of purposeful thinking to solve the problems facing societies that do not know how to deal with the requirements of human rights and freedom, and practice them incorrectly and backwardly. .3Enabling students to obtain knowledge and understanding of systems and laws and their gradations, and how to adopt freedom and the nature of its implementation. .4Developing the student's ability, skills and legal cultures, and reviewing the types of rights and freedoms, and the governmental and political trends in their application.
Module Learning Outcomes	•Making the student understand the importance of human rights and freedoms that emerge from their concern with the human being, as he is the basic element in the state. •Providing the student with the skills to use and understand political terms, and to identify the most prominent historical and human events that called for human rights and freedoms. •Enabling the student to manage political, legal and analytical dialogues of governmental and political positions. •Developing the student's ability, skills and legal cultures**.**
Indicative Contents	Linguistic and technical meaning of human rights (2) hours. Characteristics of natural personality and characteristics of human rights (2) hours. The most important basic human rights (2). hours Human rights in Eastern and Western civilizations: • Mesopotamian civilization (1 hour). • Greek and Roman civilization (1 hour). Human rights in Islamic law and the Renaissance (2) hours. Intellectual contributions to the development of human rights (2) hours. Personal and intellectual rights and freedoms:

	• The right to life (1 hour). • Freedom of opinion (1 hour). The right to equality and economic freedoms: • The right to ownership and work (2 hours). Legal, judicial, and political means to protect human rights (3 hours). Description of objects, processes, and diagrams [7 hours]

Learning and Teaching Strategies

Strategies	Lectures are given in a live format, in addition to showing visual or film material to help the student understand the scientific content.

Student Workload (SWL)

Structured SWL (h/sem)	33	**Structured SWL (h/w)**	2
Unstructured SWL (h/sem)	17	**Unstructured SWL (h/w)**	1
Total SWL (h/sem)	50		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10%(10)	5,10	LO#and2
	Assignments	2	10%(10)	6,12	All
	Report	1	10%(10)	13	LO#6
Summative assessment	**Midterm Exam**	2hr	20%(10)	7	All
	Final Exam	3hr	50%(50)	16	All
Total assessment			100%(100)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Linguistic and technical meaning of human rights
Week 2	*Characteristics of the natural personality *Characteristics of human rights * The most important basic human rights
Week 3	-Human rights in Eastern civilizations and societies -Mesopotamian civilization - Nile Valley civilization
Week 4	-Human rights in Western civilizations -Greek civilization

	-Roman civilization
Week 5	-Human rights in the Renaissance and the beginning of the modern era -Human rights in Islamic law
Week 6	-Intellectual contribution to the development of human rights among the Greeks -Contribution to the development of human rights among the Romans
Week 7	Intellectual and philosophical contribution to the development of human rights -Renaissance -Modern era - Appreciation of the theories of natural law and the social contract
Week 8	Personal rights and freedoms -The right to life -The right to dignity -The right to privacy -The right to residence and movement - The right to nationality
Week 9	Intellectual rights and freedoms -Freedom of belief and religion -Freedom of opinion (freedom of expression) -Freedom of assembly or meeting - Freedom of the press
Week 10	Right to participate in public affairs -Political rights - Right to employment
Week 11	The right to equality -The concept of the right to equality - Manifestations of the right to equality
Week 12	Economic freedoms -Freedom of ownership -Freedom of trade and industry -Right to work - Social security
Week 13	Legal means Constitutional means Ordinary legislation
Week 14	Judicial means Control of the constitutionality of the law Control of administrative actions
Week 15	Political means Political means in the domestic sphere Political means in the foreign sphere
Week 16	Preparation week before the final exam

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

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	التعليم العالي والبحث العلمي. حقوق الإنسان في الإسلام // حقوق الإنسان: المفهوم والخصائص والتصنيفات والمصادر // حقوق الإنسان في التربية الإسلامية وبعض الفلسفات التربوية الغربية دراسة مقارنة// التربية على المواطنة وحقوق الإنسان : فهم مشترك للمبادئ والمنهجيات// الحقوق الاقتصادية والاجتماعية والثقافية دليل للمؤسسات الوطنية لحقوق الإنسان	yes
Recommended Texts	النظرية التربوية: معناها ومكوناتها// الخصوصية الثقافية والترويج لتعليم حقوق الإنسان//المواطنة في فكر الغرب المعاصر // المواطنة في فكر الغرب المعاصر	No
Websites		

APPENDIX:

GRADING SCHEME				
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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	**MATHEMATICS II**	**Module Delivery**	
Module Type	BASIC		☒ **Theory** ☒ **Lecture** **Lab** ☒ **Tutorial** **Practical** **Seminar**
Module Code	ENG023		
ECTS Credits	6		
SWL (hr/sem)	150		

Module Level	1	**Semester of Delivery**	2
Administering Department	Civil Engineering	**College**	Engineering
Module Leader	Zahraa Khalil Hussein	**e-mail**	Zahraa.khaleel@uowa.edu.iq
Module Leader's Acad. Title	Assist.prof	**Module Leader's Qualification**	PhD
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Review Committee Approval	2024/9/26	**Version Number**	1

Relation With Other Modules

Prerequisite module	**MATHEMATICS I**	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	The aims of a mathematics module are to provide students with an understanding of mathematical concepts, skills, and techniques that can be applied to a range of real-world problems. This includes topics such as An introductory class in the theory and techniques of differentiation and integration ofalgebraic and trigonometric functions. Additionally, the module aims to prepare students for future academic and professional pursuits that require mathematical proficiency
Module Learning Outcomes	On successful completion of this module, students will be able to: 1. Find the domain and range of a function and graphs. 2. Evaluate limits, and determine continuity and differentiability offunctions. 3. Apply rules of calculus to solve engineering problems including differentialequations. 4. Differential calculus, these concepts are used to analyze rates of change,optimization problems, and the behavior of functions in engineering applications. 5. Integration: Table of integrals, Rules of integration, Definite integrals,Area bounded by curves, Integration by parts, Integration by substitution and using partial fractions. 6. Student should use more than one method to solve the integration. 7. Express and evaluate a double and triple integral in terms of the Cartesian. 8. Calculate area, volume, and surface area of integral. 9. Application of Integration: Centres of mass, Moments of inertia.
Indicative Contents	The Indicative Contents of a Mathematics module will depend on the level andscope of the course. However, some common topics that may be covered in a mathematics module include: 1- Arithmetic: Basic mathematical operations such as addition, subtraction,multiplication, and division. 2- Algebra: The study of mathematical symbols and the rules for manipulatingthese symbols to solve equations and represent real-world situations. 3- Geometry: The study of shapes, sizes, positions, and measurements of objectsin space. 4- Calculus: The study of mathematical concepts such as limits, derivatives, andintegrals. Overall, the Indicative Contents of a Mathematics module aims to provide students with a comprehensive understanding of mathematical concepts and their applications in various fields of study.

Learning and Teaching Strategies	
Strategies	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 achievedthrough classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL)			
Structured SWL (h/sem)	87	**Structured SWL (h/w)**	6
Unstructured SWL (h/sem)	80	**Unstructured SWL (h/w)**	2
Total SWL (h/sem)	105		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO # 1, 201, and 00
	Assignments	2	10% (10)	2, 12	LO # 3,4; 6, and 7
	Projects / Lab.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100%(100)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	**Functions:** Domain and Range, Functions and their graphs, Trigonometric Functions.
Week 2 **Week 3**	**Limits and Continuity:** Limit of a Function and Limit Laws, One-Sided LimitsContinuity, Limits Involving Infinity, Asymptotes of Graphs.

Week 4 Week 5 Week 6	**Derivatives**: Tangent Lines and the Derivative at a Point, The Derivative as a Function,Differentiation Rules, Derivatives of Trigonometric Functions, The Chain Rule, ImplicitDifferentiation, Linearization and Differentials.
Week 7 Week 8 Week 9	**Applications of Derivatives:** Extreme Values of Functions, The Mean Value Theorem, Monotonic Functions and the First Derivative Test, Concavity and Curve Sketching, AppliedOptimization, Antiderivatives
Week 10 Week 11 Week 12	**Integrals:** The Definite Integral, The Fundamental Theorem of Calculus, Indefinite Integralsand the Substitution Method, Definite Integral Substitutions and the Area Between Curves.
Week 13 Week 14 Week 15	**Applications of Definite Integrals:** Volumes using Cross-Sections, Volumes using Washerand Cylindrical Shells methods, Arc Length, Areas of Surfaces of Revolution, Work and Fluid Forces, Moments and Centers of Mass.
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	George B. Thomas Jr., "CALCULUS", 14th Ed	Yes
Recommended Texts	1. Erwin Kreyszig, "Advanced EngineeringMathematics", 10th Ed. 2. Schaum's Outline of College Mathematics, FourthEdition. Mary Attenborough, "Mathematics for Electrical Engineering and Computing", 1st Ed.	No
Websites	Topics in Calculus -Wolfram Mathworld.	

APPENDIX:

GRADING SCHEME				
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:				

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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	ENGINEERING MECHANICS		**Module Delivery**	
Module Type	BASIC		**Theory lecture**	
Module Code	CIV024			
ECTS Credits	8			
SWL (hr/sem)	200			
Module Level	1	**Semester of Delivery**	2	
Administering Department	Civil engineering	**College**	Engineering	
Module Leader	Israa Hasan Nayel	**e-mail**	israa.nayel@uowa.edu.iq	
Module Leader's Acad. Title	Assist prof. doctor	**Module Leader's Qualification**	PhD	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Review Committee Approval	2024/9/26	**Version Number**	1.0	

Relation With Other Modules

Prerequisite module	Physics	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	1. Understanding the fundamental of geometric properties of shapes. 2. Developing a foundation in truss and friction analysis that students can build upon in future studies.
Module Learning Outcomes	1. Analyzing of truss structures. 2. Finding the centroids of lines, areas and volumes. 3. Finding the centroids of composite shapes. 4. Finding the moment of inertia of single shapes. 5. Finding the moment of inertia of composite shapes. 6. Finding the product of inertia of single shapes. 7. Finding the product of inertia of composite shapes. 8. Understanding friction problems.
Indicative Contents	Indicative content includes the following. - The fundamental concepts necessary forces analysis of trusses. - The properties of shapes - The friction problems.

Learning and Teaching Strategies

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

Student Workload (SWL)

Structured SWL (h/sem)	93	**Structured SWL (h/w)**	6
Unstructured SWL (h/sem)	107	**Unstructured SWL (h/w)**	7
Total SWL (h/sem)	200		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1-3
	Assignments	2	10% (10)	2, 12	LO # 1-3
	Projects / Lab.	1	10% (10)	Continuous	All

	Report	1	10% (10)	13	LO # 2-4
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1
	Final Exam	3hr	50% (50)	16	All
Total assessment			100%(100)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Introduction to trusses
Week 2	Analyzing trusses
Week 3	Examples on trusses
Week 4	Friction
Week 5	Examples on frictions
Week 6	Centroid of lines
Week 7	Mid-term Exam + Centroid of areas
Week 8	Centroid of composite areas
Week 9	Moment of inertia of single area
Week 10	Examples on Moment of inertia of single area
Week 11	Moment of inertia of composite area
Week 12	Examples on Moment of inertia of composite area
Week 13	Product of inertia of composite area
Week 14	Examples on Product of inertia of composite area
Week 15	Moher circle
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered
Week 1	

Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources
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	Text	Available in the Library?
Required Texts	Engineering Mechanics: Statics - Hibbeler, Russell	Yes
Recommended Texts	Engineering Mechanics, Andrew Pytel, Jaan Kiusalaas	No
Websites		

APPENDIX:

GRADING SCHEME				
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:

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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al-Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	Physics		**Module Delivery**
Module Type	Basic		**Theory**
Module Code	ENG015		**Lecture**
ECTS Credits	7		**Lab**
SWL (hr/sem)	175		**Tutorial**
Module Level	1	**Semester of Delivery**	1
Administering Department	Civil Engineering	**College**	Engineering
Module Leader	Israa Hasan Nayel	**e-mail**	Sajjad.a@uokerbala.edu.iq
Module Leader's Acad. Title	Asst. Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	2024/9/26	**Version Number**	1

Relation With Other Modules

Prerequisite module	None	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. Understanding the fundamental principles of mechanical physics. 2. Developing a strong foundation in physics that students can build upon in future studies.
Module Learning Outcomes	1. Analyze the properties of forces, moments, couples, and resultants in 2D. 2. Analyze the properties of forces, moments, couples, and resultants in 3D 3. Solve equilibrium problems in 2D. 4. Solve equilibrium problems in 3D. 5. Understand basic concepts of the dynamics.
Indicative Contents	Indicative content includes the following. - The fundamental concepts necessary for the study of Physics. - The properties of forces, moments, couples, and resultants in 2D &3D - The equilibrium principles of structures. - The dynamic characteristics.

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

Student Workload (SWL)			
Structured SWL (hr/sem)	108	**Structured SWL (h/w)**	6
Unstructured SWL (hr/sem)	67	**Unstructured SWL (h/w)**	4
Total SWL (h/sem)	175		

Module Evaluation

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

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Introduction to Physics and Basic Concepts
Week 2	Scalars and Vectors
Week 3	Scalars and Vectors
Week 4	Newton's Laws and Units
Week 5	Rectangular Components of force in 2D
Week 6	Moment and Couple in 2D
Week 7	Mid-term Exam + Resultants in 2D
Week 8	Rectangular Components of force in 3D
Week 9	Moment, Couple and Resultants in 3D
Week 10	Equilibrium in two dimensions
Week 11	Equilibrium in two dimensions
Week 12	Equilibrium in three dimensions

Week 13	Equilibrium in three dimensions
Week 14	Introduction to dynamics.
Week 15	Introduction to dynamics
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

	Material Covered
Week 1	Workshop A
Week 2	Workshop A
Week 3	Workshop B
Week 4	Workshop B
Week 5	Workshop C
Week 6	Workshop D
Week 7	Workshop E

Learning and Teaching Resources

	Text	**Available in the Library?**
Required Texts	Engineering Mechanics STATICS J.L.Meriam And L.G.Kraige	Yes
Recommended Texts	Engineering Mechanics: Statics by Russell Hibbeler.	No
Websites		

Grading Scheme				
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.

	Ministry of Higher Education and Scientific Research - Iraq University of Warith Al_Anbiyaa College of Engineering Civil Engineering Department	

MODULE DESCRIPTOR FORM

Module Information

Module Title	ENGLISH LANGUAGE I	**Module Delivery**	
Module Type	BASIC	**Theory lecture**	
Module Code	UoW011		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	1	**Semester of Delivery**	1
Administering Department	Civil Engineering	**College**	Engineering
Module Leader	Israa mahdi kadhim	**e-mail**	israa.mahdi@uowa.edu.iq
Module Leader's Acad. Title	Assistant Lecturer	**Module Leader's Qualification**	M.Sc.
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Review Committee Approval	2024/9/26	**Version Number**	1.0

Relation With Other Modules

Prerequisite module	None	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. To review essential grammar of the language. 2. To develop writing skills in engineering topics with focus on enhancing students' abilities to deliver ideas clearly according to academic writing structure, including introduction paragraph, body paragraphs and a conclusion. To improve students' reading and comprehension skills in engineering topics, especially in prosthetics and orthotics engineering, and help them extract relevant information and summarize key points accurately. 4. To enhance students' vocabulary in engineering topics, through reading and listening activities. 5. To improve students' ability to listen effectively to different listening materials in engineering topics, understand the basic ideas, and summarize key points. 6. To improve students' ability to speak and present ideas in front of the class. 7. To enhance students' ability to engage and participate in classes through group reading or discussion.
Module Learning Outcomes	1. Students should be able to compose correct sentences according to the language grammar. 2. Students should be able to deliver well-written reports that meet the standards expected in the engineering field. 3. Students should be able to comprehend engineering documents, research papers, and manuals effectively. 4. Students should be able to understand and use technical vocabulary accurately and appropriately in their academic and professional settings. 5. Students should be able to listen to English listening materials in engineering field easily. 6. Students should be able speak in English and present ideas in public. 7. Students should be able to engage in groups and work in a team environment.

Indicative Contents	Part A - Review Grammar and Language Accuracy • Sentence structures and verb tenses in engineering contexts • Subject-verb agreement and word order • Common grammatical errors and their corrections. [8 hrs] Part B - Reading Comprehension • Reading and understanding simple technical texts and articles • Skimming and scanning techniques for technical information • Identifying main ideas and key details in engineering materials [8 hrs] Part C- Technical Vocabulary and Terminology: Vocabulary building exercises and activities Application of technical vocabulary in writing and speaking tasks [4 hrs] Part D - Writing Skills Writing short paragraphs and descriptions of engineering processes Constructing coherent sentences and organizing ideas Introduction to technical report writing and documentation. [8 hrs] Part E - Listening and Comprehension Skills Understanding spoken instructions and directions Listening to daily conversation and short stories Extracting key information from audio materials [8 hrs] Part F - Speaking Skills Participating in group discussions Practicing effective communication in team projects [7 hrs] Part G - Basic Communication Skills: Greetings, introductions, and social interactions Describing objects, processes, and diagrams [7 hrs]
Learning and Teaching Strategies	
Strategies	Strategies that are used in delivering this module is to train the students on reading, listening and writing, and that is achieved through class exercises and assignments to improve those skills. Communicative strategy: Encourage students to engage in authentic language use through pair and group work, discussions, role-plays, and real-life engineering scenarios. Multimodal Instruction: Utilize a variety of teaching resources and materials, including audiovisual materials, interactive online platforms. Incorporate visual aids, diagrams, and multimedia tools to enhance comprehension and engage visual and auditory learners. Authentic Materials: Incorporate authentic materials such as engineering articles, technical manuals, and industry reports to expose students to real-world language use in engineering contexts. This helps students develop language skills and domain-specific knowledge simultaneously. Formative Assessment: Implement regular formative assessments, such as quizzes, short writing assignments, and oral presentations, to monitor

	students' progress and provide timely feedback. Use assessment tasks to gauge language development and target areas for improvement. Self-Reflection and Self-Assessment: Encourage students to reflect on their language learning progress, set goals, and assess their own language proficiency. Promote self-directed learning by providing self-assessment tools and encouraging students to seek opportunities for autonomous language practice.

Student Workload (SWL)

Structured SWL (h/sem)	48	**Structured SWL (h/w)**	3.2
Unstructured SWL (h/sem)	27	**Unstructured SWL (h/w)**	1.8
Total SWL (h/sem)	75		

Module Evaluation

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	5%(5)	5,10	LO#and2
	Assignments	7	5%(5)	2,4,6,8,10,12 and 14	All
	Projects / Lab.	8	5%(10)	1,3,5,7,9,11, 13,and 15	All
	Report	1	5%(5)	12	LO#6
Summative assessment	**Midterm Exam**	2hr	20%(20)	7	All
	Final Exam	3hr	60%(60)	16	All
Total assessment			100%(100)		

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	1. It's a wonderful world! Grammar: Auxiliary verbs, naming tenses, questions and negative. Vocabulary: Social expressions, sport and Leisure. Reading: Wonders of the modern world. Writing: Topic sentences. Listening: My wonders exercise.
Week 2	2. Get happy! Grammar: Present tenses, simple and continuous, and present passive.

	Vocabulary: Numbers and dates, money and fractions. Reading: The clown doctor. Writing: Developing paragraphs with descriptive details. Listening: Sports exercise.
Week 3	3. Telling tales Grammar: Past tenses, past simple, continuous, and perfect, and past passive. Vocabulary: Art and Literature. Reading: The painter and the Writer. Writing: Using word maps to brainstorm. Listening: Books and films exercise.
Week 4	4. Doing the right thing Grammar: Modal verbs - obligation and permission. Reading: A world guide to good manners. Vocabulary: Nationality words, countries and adjectives. Writing: Review of descriptive vocabulary. Listening: Come round to my place exercise.
Week 5	5. On the move Grammar: Future forms - going to, will, and present continuous. Reading: My kind of holidays. Vocabulary: the weather, travelling around.
Week 6	6. I just love it! Grammar: Questions with like and verb patterns. Reading: Global Pizza- the history of the world's most famous food. Vocabulary: Describing food, cities and people. Writing: Paragraph explaining cause and effect/ result. Listening: New York and London exercise.
Week 7	7. The world of work Grammar: Present perfect, and present perfect passive. Reading: Dream jobs. Vocabulary: Phrasal verbs, on the phone. Writing: Expressing personal feelings about problems. Listening: The busy life of a retired man.
Week 8	8. Just imagine Grammar: Conditionals, first and second conditionals, and time clauses. Vocabulary: Base and strong adjectives. Reading: Who wants to be a millionaire. Writing: Using time expressions: after, before, and when. Listening: Who wants to be a millionaire exercise.

Week 9	9. Getting on together Grammar: Modal verbs - Probability and possibility. Vocabulary: character adjectives, agreeing and disagreeing. Reading: The man who planted trees. Writing: Writing about causes and effect relationships. Listening: Brothers and Sisters exercise.
Week 10	10. Obsessions Grammar: Present perfect continuous, questions and answers, and time clauses. Vocabulary: Compound nouns. Reading: Famous for not being famous. Writing: Summarizing all previous exercises in one writing exercise. Listening: Collectors exercise.
Week 11	11. Tell me about it Grammar: Indirect Questions, and questions tags. Reading: Engineering reading material 1. Vocabulary: Engineering terms 1. Speaking: group discussion. Listening: BBC six minutes English exercise.
Week 12	Speaking presentation. Listening: Ted video exercise.
Week 13	12. Life's great events! Grammar: Reported speech: reported statements, and reported requests and commands. Reading: Engineering reading material 2 Vocabulary: Engineering terms 2. Speaking: group discussion. Listening: Engineering listening material.
Week 14	Reading: Engineering reading material 3 Vocabulary: Engineering terms 3
Week 15	Content review
Week 16	Preparatory week before the final Exam

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

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	1. New Headway Plus Intermediate Student Book, Liz and Hohn Soars, 2006, Oxford University Press. 2. Writing in Paragraphs, Dorothy E Zemach and Calos Islam, 2010, Macmillan.	yes
Recommended Texts		
Websites	News - Biomedical Engineering at the University of Michigan (umich.edu) Websites TED-Ed – YouTube BBC Learning English - 6 Minute English	

APPENDIX:

GRADING SCHEME				
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:

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MODULE DESCRIPTOR FORM

Module Information

Module Title	MATHEMATICS I		**Module Delivery**	
Module Type	BASIC		**Theory** **lecture** **practical**	
Module Code	ENG013			
ECTS Credits	3			
SWL (hr/sem)	150			
Module Level	1	**Semester of Delivery**	1	
Administering Department	Civil engineering	**College**	Engineering	
Module Leader	Zahraa Khalil Hussein	**e-mail**	Zahraa.khaleel@uowa.edu.iq	
Module Leader's Acad. Title	Assistant Lecturer	**Module Leader's Qualification**	M.Sc.	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Review Committee Approval	2024/9/26	**Version Number**	2024	

Relation With Other Modules

Prerequisite module	None	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	The aims of a mathematics module are to provide students with an understanding of mathematical concepts, skills, and techniques that can be applied to a range of real-world problems. This includes topics such as An introductory class in the theory and techniques of differentiation and integration of algebraic and trigonometric functions. Additionally, the module aims to prepare students for future academic and professional pursuits that require mathematical proficiency.
Module Learning Outcomes	On successful completion of this module, students will be able to: 1. Find the domain and range of a function and graphs. 2. Evaluate limits, and determine continuity and differentiability of functions. 3. Apply rules of calculus to solve engineering problems including differential equations. 4. Differential calculus, these concepts are used to analyze rates of change, optimization problems, and the behavior of functions in engineering applications. 5. Integration: Table of integrals, Rules of integration, Definite integrals, Area bounded by curves, Integration by parts, Integration by substitution and using partial fractions. 6. Student should use more than one method to solve the integration. 7. Express and evaluate a double and triple integral in terms of the Cartesian. 8. Calculate area, volume, and surface area of integral. 9. Application of Integration: Centres of mass, Moments of inertia.
Indicative Contents	The Indicative Contents of a Mathematics module will depend on the level andscope of the course. However, some common topics that may be covered in a mathematics module include: 1- Arithmetic: Basic mathematical operations such as addition, subtraction, multiplication, and division. 2- Algebra: The study of mathematical symbols and the rules for manipulating these symbols to solve equations and represent real-world situations. 3- Geometry: The study of shapes, sizes, positions, and measurements of objects in space. 4- Calculus: The study of mathematical concepts such as limits, derivatives, and integrals. Overall, the Indicative Contents of a Mathematics module aims to provide students with a comprehensive understanding of mathematical concepts and their applications in various fields of study

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

Student Workload (SWL)			
Structured SWL (h/sem)	78	**Structured SWL (h/w)**	6.0
Unstructured SWL (h/sem)	72	**Unstructured SWL (h/w)**	4
Total SWL (h/sem)	150		

Module Evaluation

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

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	Functions: Domain and Range, Functions and their graphs, Trigonometric Functions.
Week 2-3	Limits and Continuity: Limit of a Function and Limit Laws, One-Sided Limits Continuity, Limits Involving Infinity, Asymptotes of Graphs.
Week 4-6	Derivatives: Tangent Lines and the Derivative at a Point, The Derivative as a Function, Differentiation Rules, Derivatives of Trigonometric Functions, The Chain Rule, Implicit Differentiation, Linearization and Differentials.
Week 7-9	Applications of Derivatives: Extreme Values of Functions, The Mean Value Theorem, Monotonic Functions and the First Derivative Test, Concavity and Curve Sketching,

	Applied Optimization, Antiderivatives
Week 9-12	Integrals: The Definite Integral, The Fundamental Theorem of Calculus, Indefinite Integrals and the Substitution Method, Definite Integral Substitutions and the Area Between Curves.
Week 13-15	Applications of Definite Integrals: Volumes using Cross-Sections, Volumes using Washer and Cylindrical Shells methods, Arc Length, Areas of Surfaces of Revolution, Work and Fluid Forces, Moments and Centers of Mass.
Week 7	Preparatory week before the final Exam

Learning and Teaching Resources

	Text	**Available in the Library?**
Required Texts	George B. Thomas Jr., "CALCULUS", 14th Ed	yes
Recommended Texts	1.Erwin Kreyszig, "Advanced Engineering Mathematics", 10th Ed. 2.Schaum's Outline of College Mathematics, Fourth Edition. 3.Mary Attenborough, "Mathematics for Electrical Engineering and Computing", 1st Ed.	No
Websites	Topics in Calculus -Wolfram Math world.	

Delivery Plan (Weekly Lab. Syllabus)

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

APPENDIX:

GRADING SCHEME				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
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