

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Fundamental computer science	Module Delivery	
Module Type	Core	<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar	
Module Code			
ECTS Credits	3		
SWL (hr/sem)	100		
Module Level			
Administering Department	Remote Sensing	College	Remote Sensing & Geophysics
Module Leader	Dr. Ali Abdulwahhab Mohammed	e-mail	ali_abdulwahhab@kus.edu.iq
Module Leader's Acad. Title	Assistant Professor	Module Leader's Qualification	
Module Tutor	3	e-mail	ali_abdulwahhab@kus.edu.iq
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	1/9/2022	Version Number	

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><b>Module Aims</b> أهداف المادة الدراسية</p>	<ol style="list-style-type: none"><li>1. Identify the properties of computer science.</li><li>2. Recognize the concept basic computer and application of it in human life and Remote Sensing field.</li><li>3. Study types of Computer generations.</li><li>4. Study types of computers.</li><li>5. Knowing the Computer Components.</li><li>6. Identify types of Memory</li><li>7. Study Microsoft Excel 2016.</li><li>8. Study Microsoft PowerPoint 2016.</li><li>9. Study Convert Decimal to Binary &amp; Binary to Decimal Numbers Systems.</li><li>10. Identify the Internet and the World Wide Web.</li></ol>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"><li>1. Recognize the theoretical and Practical aspects of learning computer Components.</li><li>2. Learning types of Components.</li><li>3. Understand and apply the Microsoft words 2016.</li><li>4. Understand and apply the Microsoft Excel 2016.</li><li>5. Learning types of Memory.</li><li>6. Understand and apply the types of Convert Decimal to Binary &amp; Binary to Decimal Numbers Systems.</li><li>7. Recognize the Internet and the World Wide Web.</li></ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<ol style="list-style-type: none"><li>1- To distinguish between types of Computers.</li><li>2- To distinguish between types of Memory.</li><li>3- Students will receive hands-on experience with the Internet and the World Wide Web.</li><li>4- To understand the Microsoft words 2016.</li></ol> <p>Introduction to the personal computer, hardware and software will be covered as well</p>

## Learning and Teaching Strategies

## استراتيجيات التعلم والتعليم

<b>Strategies</b>	<ol style="list-style-type: none"> <li>1- Following up the scientific development of computer Components by reviewing modern curricula.</li> <li>2- Follow-up and development of academic courses and compare them with other universities.</li> <li>3- Using the latest teaching aids to motivate the student to learn and understand.</li> </ol>
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## Student Workload (SWL)

### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	56		
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	44		
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	100		

## Module Evaluation

### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	2	10% (10)	5	
	<b>Assignments</b>	2	10% (10)	4	
	<b>Projects / Lab.</b>	1	10% (10)	16	
	<b>Report</b>	1	10% (10)	4	
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	10% (10)	7	
	<b>Final Exam</b>	2hr	50% (50)	16	
<b>Total assessment</b>			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to the Computer generation and its uses
Week 2	Computer generation, First Generation Computers, Second Generation Computers, Third Generation Computers.
Week 3	Computer generation, Fourth Generation Computers, Fifth Generation Computers.
Week 4	Types of Computers, PC (Personal Computer) , Workstation, Minicomputer .
Week 5	Types of Computers , Mainframe , Supercomputers
Week 6	Computer Components , Parts Computers and Units of input and output types,
Week 7	Memory. Cache Memory, Primary Memory/Main Memory
Week 8	Memory. Secondary Memory, Memory unit
Week 9	Statistical functions and logical , Convert Decimal to Binary
Week 10	Statistical functions and logical, Binary to Decimal Numbers Systems
Week 11	Windows 10 (1) and uses, Desktop and divisions, , Taskbar barriers a cent,
Week 12	Windows 10 (2) The contents start list
Week 13	Microsoft Word 2016 (1), Microsoft Excel 2016.
Week 14	Internet and Intranet and its applications
Week 15	Examples
Week 16	<b>Preparatory week before the final Exam</b>

### Delivery Plan (Weekly Lab. Syllabus)

#### المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Windows 10 (1) and uses, Desktop and divisions, , Taskbar barriers a cent,
Week 2	Windows 10 (2) The contents start list
Week 3	Windows 10 (3) Mouse and its uses
Week 4	Microsoft Word 2016 (1)
Week 5	Microsoft Word 2016 (2)
Week 6	Microsoft Excel 2016
Week 7	Microsoft PowerPoint 2016

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	1- Parsons, June and Dan Oja. Computer Concepts 2016 Comprehensive, Course Technology, 2016. Computers today by S.K. Basandra, Galgotia Publications 2- Zimmerman, S. Scott, et.al. Microsoft Office Word 2016. Course Technology, 2016. Parsons, June, et.al. Microsoft Office Excel 2016. Course Technology, 2016.	yes
Recommended Texts	3- , Parsons, June and Dan Oja. Computer Concepts 2016 Comprehensive, Course Technology, 2016. Computers today by S.K. Basandra, Galgotia Publications	yes
Websites	<a href="https://code.org/educate/curriculum/csf">https://code.org/educate/curriculum/csf</a>	

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Applied statistics		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code			
ECTS Credits	8		
SWL (hr/sem)			
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader		e-mail	Salam.j@kus.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		Version Number	

### Relation with other Modules

العلاقة مع المواد الدراسية الأخرى

Prerequisite module		Semester	
Co-requisites module		Semester	

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	<ol style="list-style-type: none"> <li>1. Read the course syllabus and identify the section or sections that describe the aims or objectives of the module.</li> <li>2. Look for statements that outline the overall purpose or goals of the module.</li> <li>3. Extract and summarize the main aims in a concise and clear manner.</li> </ol>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> <li>1. Review the syllabus for specific statements that describe the expected learning outcomes of the module.</li> <li>2. Identify the knowledge, skills, or competencies that students should gain or demonstrate by the end of the module.</li> <li>3. List the learning outcomes in a clear and measurable format, using action verbs that describe observable behaviors.</li> </ol>
<b>Indicative Contents</b> المحتويات الإرشادية	<ol style="list-style-type: none"> <li>1. Analyze the syllabus for the sections or subsections that outline the topics or content covered in the module.</li> <li>2. Identify the main themes, concepts, or subject areas that are addressed in each section.</li> <li>3. Create a comprehensive list of the indicative contents, ensuring that it reflects the breadth and depth of the module's coverage.</li> </ol>

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<ol style="list-style-type: none"> <li>1. Look for any explicit mentions of teaching or learning strategies in the syllabus.</li> <li>2. Identify the methods, approaches, or techniques that will be used to facilitate learning and achieve the module aims.</li> <li>3. Take note of any specific instructional strategies, assessment methods, or</li> </ol>
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	resources mentioned in the syllabus.
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<b>Student Workload (SWL)</b> الحمل الدراسي للطالب			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل			
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل			
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل			

<b>Module Evaluation</b> تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	Quizzes	2	10% (10)		
	Assignments	2	10% (10)		
	Projects / Lab.	1	10% (10)		
	Report	1	10% (10)		
<b>Summative assessment</b>	Midterm Exam	2 hr	10% (10)		
	Final Exam	2hr	50% (50)		
<b>Total assessment</b>			100% (100 Marks)		

<b>Delivery Plan (Weekly Syllabus)</b> المنهاج الاسبوعي النظري	
	<b>Material Covered</b>



<b>Week 1</b>	Descriptive statistics: <ul style="list-style-type: none"> <li>- Frequency distribution</li> <li>- Cumulative distribution</li> <li>- Graphical presentation</li> <li>- Measures of central tendency</li> </ul>
<b>Week 2</b>	<ul style="list-style-type: none"> <li>- Measures of dispersion</li> <li>- Measures of skewness and kurtosis</li> <li>- Measures of Position</li> <li>- Exploratory Data Analysis</li> <li>- Tree Diagrams and the</li> </ul>
<b>Week 3</b>	- Basic probability Sample Spaces and Probability
<b>Week 4</b>	- Basic probability
<b>Week 5</b>	First Exam
<b>Week 6</b>	Introduction Probability Distributions Mean, Variance, and Expectation
<b>Week 7</b>	Discrete random variables
<b>Week 8</b>	Discrete random variables
<b>Week 9</b>	- Continuous random variables
<b>Week 10</b>	Continuous random variables
<b>Week 11</b>	Test of hypothesis
<b>Week 12</b>	Test of hypothesis
<b>Week 13</b>	Correlation
<b>Week 14</b>	Regression
<b>Week 15</b>	Second Exam
<b>Week 16</b>	Preparatory week before the final Exam

## Delivery Plan (Weekly Lab. Syllabus)

### المنهاج الاسبوعي للمختبر

	Material Covered
<b>Week 1</b>	<b>Getting Started With SPSS Statistics</b> - Introduction - SPSS Statistics Data Editor 1. Data View . 2. Variable View
<b>Week 2</b>	<b>Getting Started With SPSS Statistics</b> - SPSS Statistics Data Editor 1. Data View . 2. Variable View - Creating a Data File
<b>Week 3</b>	<b>Working With Data</b> - Compute - Recode
<b>Week 4</b>	<b>Summarising and Displaying Data</b> - Frequencies
<b>Week 5</b>	<b>Summarising and Displaying Data</b> - Descriptives
<b>Week 6</b>	<b>Summarising and Displaying Data</b> - Explore - Chart Builder - Histogram - Normal Q-Q Plots - Boxplot
<b>Week 7</b>	First Exam
<b>Week 8</b>	<b>One Sample <math>t</math> Test</b> (Purpose of the Independent Samples $t$ Test )/(Analyzing the Data )
<b>Week 9</b>	<b>One Sample <math>t</math> Test</b> (Assumptions) / (APA Style Results Write-Up)
<b>Week 10</b>	<b>One-Way Between Groups ANOVA</b> (Purpose of the One-Way Between Groups ANOVA)/ (Analyzing the Data )
<b>Week 11</b>	<b>One-Way Between Groups ANOVA</b> (Assumptions)/( APA Style Results Write-Up)
<b>Week 12</b>	<b>Correlation</b> (Purpose of Correlation)/(Analyzing the Data )
<b>Week 13</b>	<b>Correlation</b> (Assumptions)/( APA Style Results Write-Up)
<b>Week 14</b>	<b>Regression</b> Purpose of Simple and Multiple Regression)/ (Assumptions)/( APA Style Results Write-Up)
<b>Week 15</b>	Second Exam

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	-Meyer, Paul L.-Introductory probability and statistical applications-Addison-Wesley Pub. Co._ Amerind (1970) - statistical inference. 3 Dr. Abdul Majeed Hamza.and Dr. Dhafer Hussain Rashid.	yes
Recommended Texts	Elementary Statistics A Step by Step Approach Allan G. Bluman , Professor Emeritus Community College of Allegheny County	yes
Websites		

Grading Scheme				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
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# MODULE DESCRIPTION FORM

## نموذج وصف مادة اللغة العربية

Module Information			
معلومات المادة الدراسية			
Module Title	اللغة العربية		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	MPH12011		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	1	Semester of Delivery	
Administering Department	MPH	College	SCI
Module Leader	Dr. Ahmed kahlaf	e-mail	<a href="mailto:Ahmed.k@kus.edu.iq">Ahmed.k@kus.edu.iq</a>
Module Leader's Acad. Title	lecturer	Module Leader's Qualification	Ph.D.
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	none	e-mail	none
Scientific Committee Approval Date	11/06/2023	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><b>Module Aims</b></p> <p>أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> <li>1- تعلم العربية السليمة كونها اللغة الرسمية للوطن</li> <li>2- اللغة جوهر الهوية ورمزها</li> <li>3- اللغة تختلف عن اللهجة، فالأولى عالمية والثانية محلية</li> <li>4- توظيف المفردات الفصيحة في الصياغة الأكاديمية للبحوث العلمية مترجمة بنظيرها الفصيح</li> <li>5- التمكّن من كتابة البحوث والمقالات ذات المحتوى العلمي الصرف باللغة العربية الفصحى</li> <li>6- تجنب الأخطاء الشائعة في الكتابة واختيار المفردات الصائبة</li> <li>7- إثراء الخزين المعجمي لدى الطالب للمساعدة في بناء كاريزما التواصل الكلامي</li> <li>8- الاطلاع على نماذج من الأدب العربي شعرا ونثرا لما لها من أساس في بناء الجانب الثقافي المتنوع لدى الطالب</li> <li>9- كتابة الأعداد يتمكّن فضلا الكتابة الصحيحة في صياغة الطلبات الرسمية</li> <li>10- التعرف على الدرس الصوتي في اللغة العربية وعلاقته بعلم الفيزياء</li> </ol>
<p><b>Module Learning Outcomes</b></p> <p>مخرجات التعلم للمادة الدراسية</p>	<p>عند انتهاء مفردات المادة الدراسية يكون الطالب متمكنا من:</p> <ol style="list-style-type: none"> <li>1- الكتابة السليمة خالية من الأخطاء</li> <li>2- التعبير العلمي الأكاديمي الصحيح</li> <li>3- استعمال المفردات الفصيحة توظيفا ونطقا</li> <li>4- إضافة رصيد لغوي ومفاهيم جديدة لمعاني الكلمات</li> <li>5- القدرة على المخاطبة الإدارية في الطلبات الرسمية</li> </ol>
<p><b>Indicative Contents</b></p> <p>المحتويات الإرشادية</p>	<ol style="list-style-type: none"> <li>1- لكل تخصص لغته التي تومئ اليه، وتدل عليه، ولغة كل علم تنبع من طبيعة كنهه، فالاختصاصات العلمية لها معجم خاص بها يعبر عن جوهرها ومضمونها، فضلا عن المصطلحات الخاصة بها التي تدل عليها، وكذلك المصادر العلمية التي يُرجع إليها، والحال كما في اللغة الأدبية؛ فهي أيضا لها مفرداتها وطريقة كتابتها والتعبير بها وعبرها، ومصطلحاتها الخاصة بها التي تعبر عنها وتدل عليها. [4 hrs]</li> <li>2- المعاجم – بشكل عام - على اختلاف موارها تمثل محتوى وكفنا لمفردات اي لغة مقترنة بالشرح والتفسير لتلك المفردات، اما المعاجم في اللغة العربية فهي واسعة ومتنوعة؛ فهناك معاجم غير معجمات اللغة، فالعربية فيها اول معجم جغرافي في التاريخ، معجم البلدان لـ (ياقوت الحموي)، فضلا عن المعاجم المتخصصة في جزئية معينة، مثل معجم البلاغة، فضلا عن تنوع المدارس في تأليف المعاجم وتبويبها وطريقة البحث عن المفردة فيها. [4 hrs]</li> <li>3- العلامة تدرج ضمن حقل علم السيميائيات، وعلامات الترقيم من المواضيع المهمة بالأخص في البحوث الأكاديمية، بغض النظر عن التخصص، سواء كان التخصص علميا، او انسانيا، من هنا تأتي أهمية علامات الترقيم؛ فلها دور سيميائي، ودلالي مهم في الكتابة النصية وفي بناء النص، فهي تُسهّل الفهم على القارئ، وتوضح المعنى المقصود، عبر القراءة والتلفظ بالعبارة، فعلامات الترقيم خير وسيلة لإظهار الصراحة وبيان الوضوح في الكلام المكتوب؛ لأنه يدل الناظر إلى تلك العلامات الاصطلاحية وعلى العلاقات التي تربط أجزاء الكلام بعضها ببعض بوجه عام، وأجزاء كل جملة بوجه خاص، وكما يقول المتخصصون عن علامات الترقيم: بأن الوقف ليس مستقلاً، وإنما هو من توابع التفكير، أي: إن السكتات المقررة بمقادير مضبوطة في مواضع معينة، ليست مجرد محطات تنفسية بالمعنى البيولوجي للتنفس، وإنما في المقام الأول وقفات معنوية. فالعبرة من الناحية اللغوية ليست بأن يستعيد القارئ نفسه، بل المهم أن يتعاطى القارئ السكت بمقادير معلومة، وفي مواضع محددة من السلسلة المنطوقة رفعا للبس، وصوناً لمقصد المتكلم عن التبديل، فهذه العلامات تجسّد لمشاعر الكاتب وقصدياته فيها. [6 hrs]</li> <li>4- الأسلوب الكتابي يمثل بصمة للكاتب الذي يصدر عنه، ويتجسد عند القارئ، ولكل كاتب أسلوبه الخاص به،</li> </ol>

ينعكس ذلك في نتاج الكاتب، وللأسلوب انواع مختلفة، فهناك الاسلوب العلمي، والاسلوب الادبي، والاسلوب  
الخطابي، ولكل نوع خصائصه، وقالبه الذي يتكون فيه. [4 hrs]

5- الاحداث التي تقتزن بالزمن تمثل الافعال، والافعال في العربية تناظر الازمنة في اللغات الاخرى من جانب  
معين، او من جزئية معينة، والعربية تحتوي على عدد كبير من الجذور، جذور الأفعال، ففي العربية أفعال  
ثلاثية ورباعية وخماسية وسداسية، والفعل جزء مهم من اجزاء الكلام الاساسية، فضلا عن الجانب الصوتي في  
هذه الجذور، فعلم (الأصوات الفيزيائي) من العلوم المهمة في اللغة العربية، إذ يُعد علم (الأصوات الأكوستيكي)  
علما أقرب إلى الفيزياء منه للعلوم الإنسانية، وهو يمثل المرحلة الوسطى بين علم الأصوات النطقي وعلم  
الأصوات السمعي، وعلاقته مع اللغة العربية انطلقا من البذرة الاولى في دراسة مخارج الحروف فيزيائيا  
ودلاليا. [4 hrs]

6- الكلام عن الشعر لا ينتهي؛ فالشعر تجسيد لمشاعر الفرد المتمثل بالشاعر، والمشاعر الجمعية للانسانية  
جمعاء، فهو موجود لدى كل بني البشر، والشعر العربي القديم كان بمثابة نشيدا وطنيا لهم، يمثل هويتهم الثقافية  
الرصينة ويمثل سجلا لتاريخهم وأمجادهم، على اختلاف اغراضه من غزل ومدح وثناء وغير ذلك، وبحور  
الشعر في الشعر العربي مبنية بناء صوتيا فريدا عبر التفعيلات التي وضعها الخليل بن احمد الفراهيدي ووضع  
فلسفتها وكنهها وقواعدها، والشعر رصيد ثقافي، وحجة في الكلام، وزينة ورونقا يضاف على شخصية الفرد  
والمجتمع بشكل عام. [4 hrs]

7- الهمزة من المواضيع الاجرائية لدى الفرد الكاتب، بغض النظر عن التخصص، فيحتاجها كل فرد ناطق  
كاتب بها، فلها قواعدها التي تصدر عنها، وتكتب بالشكل السليم منها، فموضوع رسم الهمزة من الاهمية بمكان؛  
فرسمها يغير من المعنى، فلا بد من وضعها ورسمها بالشكل الصحيح لتوخي التعبير الدقيق عن المعنى  
المقصود. [4 hrs]

8- المفاعيل في اللغة العربية، من الموضوعات المهمة في درس اللغة العربية، ولا بد لكل دارس من معرفتها  
بشكل عام، وهناك آراء مختلفة بين البلاغيين والنحويين عن المفاعيل، هل ان تلك المفعولات فضلة، أم أنها  
ركن رئيس في الجملة؛ فالنحويون يرون انها فضلة في الجملة، وأن ركني الجملة الأساسيين هما: الفعل،  
والفاعل، وأما البلاغيون فيرون: إنها ليست فضلة، وإنما هي ركن أساسي في الجملة؛ لأن كل كلمة تُدَلُّ على  
معنى في الجملة، وإذا ما دلت على معنى فلا تُعد فضلة، وإنما هي ركن رئيس في الجملة وبنائها، ورأي  
البلاغيين أقرب للصواب من رأي النحويين، فدراستها في العربية لغير المختصين مما يضيف لهم خزينا تعبيريا  
متنوعا. [4 hrs]

9- من المعروف وجود ظاهرة الأخطاء اللغوية نحويةً كانت أو املانية أو اسلوبية، عند متحدثي اللغة العربية  
وبالأخص عند غير المختصين بها ولا سيما من يعملون في مجال الاعلام، وهذه الظاهرة اتسعت وزاد انتشارها  
في العصر الحديث، فأخذت هذه الأخطاء تغزو مجالات الدراسة جميعها، من ذلك موضوع (العدد) في اللغة  
العربية، فنجد كثيراً من الطلبة وكذلك من عامة الناس يستعملون الأرقام بدلاً من كتابتها بالحروف؛ وذلك لتجنب  
الوقوع في الخطأ وهذا دليل ضعف لا يليق بالدارس أياً كان تخصصه؛ ولهذا فموضوع العدد وقواعد كتابته في  
اللغة العربية موضوع لا غنى عنه في زمن لغة الأرقام. [4 hrs]

10- هناك مجموعة من الالفاظ متداولة بشكل كبير، تُستعمل في غير مكانها الصحيح، وفي غير ما وُضعت له  
وهذه الالفاظ تُستعمل في المخاطبات الرسمية الادارية بالمعنى غير الصحيح او الدقيق الذي تحمله تلك الالفاظ  
من معاني، فضلا عن أهمية توخي الدقة في هذه الالفاظ توظيفا لها في الطلبات الرسمية التي تُقدم على اختلاف  
موضوعاتها، فالطلب لا بد من ان يكون مختصرا مركزا، يعطي الفكرة الموجزة، والهدف المقصود منه ازاء  
صاحب الادارة الذي تُقدم اليه الطلبات، وما في ذلك من ايجابيات العمل في التخفيف واختصار للجهد والوقت  
في تنفيذ المهام الادارية الموكلة الافراد على اختلاف درجاتهم. [4 hrs]

## Indicative Contents

### المحتويات الإرشادية

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	صناعة شخصية متكاملة للطالب الجامعي من حيث التخصص العلمي الدقيق والتخصص المساند
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## Student Workload (SWL)

### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	33	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعياً	2
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعياً	2.8
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	75		

## Module Evaluation

### تقييم المادة الدراسية

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

## Delivery Plan (Weekly Syllabus)

### المنهاج الاسبوعي النظري

	Material Covered
<b>Week 1</b>	الفرق بين اللغة العلمية واللغة الادبية
<b>Week 2</b>	المعاجم العربية وانواعها
<b>Week 3</b>	علامات الترقيم
<b>Week 4</b>	الاسلوب
<b>Week 5</b>	الأفعال – أنواعها وتقسيماتها
<b>Week 6</b>	نماذج مختارة من الشعر العربي القديم - الشعر الاسلامي - الشعر الاموي
<b>Week 7</b>	Mid-term Exam
<b>Week 8</b>	رسم الهمزة / همزة الوصل وهمزة القطع

Week 9	كتابة الهمزة بداية الكلام وآخره
Week 10	المبتدأ والخبر – مهارات كتابة العدد
Week 11	المفاعيل / المفعول به – المفعول لأجله
Week 12	المفعول معه – المفعول فيه – المفعول المطلق
Week 13	النثر العربي
Week 14	الأخطاء الشائعة – طريقة كتابة الطلبات الرسمية
Week 15	نماذج مختارة من الشعر العباسي والشعر الحديث
Week 16	Preparatory week before the final Exam

### Learning and Teaching Resources

#### مصادر التعلم والتدريس

	Texts	Available in the Library?
Required Texts	كتاب: العربية الجامعية لغير المتخصصين / د. عبده الراجحي كتاب: النحو التطبيقي / د. عبده الراجحي	كلا
Recommended Texts	الصرف التطبيقي / د. عبده الراجحي النحو الوافي / عباس حسن تاريخ الادب العربي / شوقي ضيف	كلا
Websites	شبكة الفصحى لعلوم اللغة العربية	

### Grading Scheme

#### مخطط الدرجات

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

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



# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<b>Historical Geology</b>		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code			
ECTS Credits	8		
SWL (hr/sem)			
Module Level		Semester of Delivery	
Administering Department	Remote Sensing	College	Remote Sensing and geophysics
Module Leader	Linaz Anis Fadhil	e-mail	linaz@kus.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		Version Number	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Physical geology	Semester	1
Co-requisites module		Semester	

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	The ability of student to understand the geologic time and the dynamic of earth and solar system.  Plate tectonic theory and its explanation of earth components
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> <li>1. What is earth.</li> <li>2. Solar system?</li> <li>3. The main hypothesis in formation the earth and ether plants</li> <li>4. The main laws in relative dating?</li> <li>5. Soil horizons and the</li> <li>6. The geologic recourses how can save and use</li> <li>7. The products of weathering and their roles</li> <li>8.</li> </ol>
<b>Indicative Contents</b> المحتويات الإرشادية	Figures. Tables, glass and wood samples and Illustration blocks with motion

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	
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## Student Workload (SWL)

### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل			
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل			
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل			

## Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)		
	Assignments	2	10% (10)		
	Projects / Lab.	1	10% (10)		
	Report	1	10% (10)		
Summative assessment	Midterm Exam	2 hr	10% (10)		
	Final Exam	2hr	50% (50)		
<b>Total assessment</b>			100% (100 Marks)		

## Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Physical and historical geology
Week 2	Dynamic earth and solar system
Week 3	The plate tectonic theory
Week 4	Internal of earth and their characteristics
Week 5	The law of relative dating
Week 6	Numerical dating and radioactive decay
Week 7	The main epochs
Week 8	Geological structures
Week 9	Geologic time scale
Week 10	The geologic events
Week 11	Precambrian
Week 12	Phanerozoic
Week 13	Cretaceous
Week 14	Tertiary
Week 15	Quaternary
Week 16	Preparatory week before the final Exam Examination

## Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Contour maps
Week 2	Cross section
Week 3	Superposition
Week 4	Original horizontality
Week 5	Cross cutting relation ship
Week 6	Fossils secession
Week 7	Hiatus

## Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Reed Wicander and James S. Monroe (2017) Historical Geology. Sixth edition Earle, S. (2015). Physical Geology. Victoria, B.C.: BCcampus. Retrieved from <a href="https://opentextbc.ca/geology/">https://opentextbc.ca/geology/</a>	
Recommended Texts	Principles of Earth science, 2014: Saadi Al Dahaan	
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 (فيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<b>Human rights</b>		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	MPH12012		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	1	Semester of Delivery	
Administering Department	MPHY	College	SCI
Module Leader	Dr.Mohanad Basim Ibrahim	e-mail	mohanad.al.sallami@kus.edu.iq
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	
Module Tutor	Name (if available)	e-mail	E-mail
Peer Reviewer Name	none	e-mail	none
Scientific Committee Approval Date	11/06/2023	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

<b>Module Aims</b> أهداف المادة الدراسية	تهدف المادة إلى بيان أهمية الحقوق الأصلية للصيفة بالإنسان، التي تتفق مع فطرته، والتي يقبلها العقل المجرد، والتي لا تختلف باختلاف الزمان والمكان، وهذه هي حقوق الإنسان.
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	تسهم المادة العلمي (لحقوق الإنسان) إلى تثقيف الطالب من الناحية القانونية؛ ليكون مطلع على ماهية الحقوق الإنسانية، وأصلها التاريخي، وتعريف ماله من حقوق وما عليه من التزامات، من خلال معرفة حقه وحدود ذلك الحق، وحقوق الآخرين، وما سعت إليه الدول والمنظمات الدولية والاقليمية في تعزيز مفاهيم تلك الحقوق، وإلزام الدول للنص عليها في التشريعات الداخلية، والضمانات التي تكفل تطبيق تلك الحقوق العالمية.
<b>Indicative Contents</b> المحتويات الإرشادية	إن المحتويات الإرشادية لمادة حقوق الإنسان تتلخص بتهذيب سلوك الطالب، [20hr] وتعريفه إن تعامله مع غيره من بني البشر. يقوم على مبدأ: ((إن الناس صنفان؛ إما أخوك في الدين، أو نظيرك في الخلق)). [20 hr].

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>نعمد في هذا الجانب إلى ما يلي:</p> <ol style="list-style-type: none"> <li>1- يعرف الطالب إبتداءً بمضمون موجز عن المفردات التي سيتم تناولها خلال المحاضرة، ثم توجه له بعض الأسئلة التي تحرك ذهنه، وتشد إنتباهه؛ لضمان حسن الاستماع.</li> <li>2- يتم التعمق بشرح المفردات العلمية في حدود تناسب متوسط المستويات العلمية لضمان عدم تجاوز الفروق الفردية عند عموم الطلبة.</li> <li>3- يتم ترك مساحة للنقاش الحر في إطار الموضوع المخصص للمحاضرة.</li> <li>4- الحرص على جانب التغذية الراجعة للمعلومات قبل نهاية المحاضرة.</li> <li>5- التواصل الإلكتروني مع الطلبة لنشر المحاضرات المسجلة، والمكتوبة من خلال الموقع الرسمي للجامعة.</li> </ol>
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## Student Workload (SWL)

### الحمل الدراسي للطلاب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطلاب خلال الفصل	33	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطلاب أسبوعياً	2
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطلاب خلال الفصل	42	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطلاب أسبوعياً	2.8
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطلاب خلال الفصل	75		

## Module Evaluation

### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 10 and 11
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / tutorial.	1	10% (10)	Continuous	
	Report	1	10% (10)	13	LO # 5, 8 and 10
Summative assessment	Midterm Exam	1 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	تعريف وطبيعة حقوق الإنسان
Week 2	التطور التاريخي لحقوق الإنسان
Week 3	مميزات حقوق الإنسان عن غيرها من الحقوق
Week 4	حقوق الإنسان في الديانات السماوية
Week 5	حقوق الإنسان في المواثيق الدولية
Week 6	حقوق الإنسان في التشريعات الداخلية
Week 7	حقوق الإنسان الشخصية
Week 8	حقوق الإنسان الاجتماعية
Week 9	حقوق الإنسان الثقافية
Week 10	حقوق الإنسان الاقتصادية
Week 11	ضمانات حقوق الإنسان الدولية
Week 12	ضمانات حقوق الإنسان الإقليمية
Week 13	ضمانات حقوق الإنسان الداخلية (الوطنية)
Week 14	الجزاء المترتبة على المساس بحقوق الإنسان
Week 15	امتحان



## Learning and Teaching Resources

### مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	كتاب/ حقوق الانسان (تطورها، مضامينها، حمايتها) د. رياض عزيز هادي.	Yes
<b>Recommended Texts</b>	كتاب/ حقوق الانسان د. حميد حنون.	No
<b>Websites</b>	<a href="https://www.noor-book.com/">https://www.noor-book.com/</a> <a href="https://www.un.org/ar/about-us/universal-declaration-of-human-rights">https://www.un.org/ar/about-us/universal-declaration-of-human-rights</a> <a href="https://ar.wikipedia.org/wiki/">https://ar.wikipedia.org/wiki/</a>	

## Grading Scheme

### مخطط الدرجات

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

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

# MODULE DESCRIPTION

## وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	English Language		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	KUS12012		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	1	Semester of Delivery	
Administering Department	Remote Sensing	College	College of Remote Sensing and Geophysics
Module Leader	Hadeel Falah Hasan	e-mail	Hadeel_alnaqeeb@kus.edu.iq
Module Leader's Acad. Title	Assist. Lecturer	Module Leader's Qualification	Ma.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

<b>Module Aims</b> أهداف المادة الدراسية	The purpose of this semester is to provide students with the language and skills they need to carry out their professional goals. This semester offers great opportunities for students to build awareness and practice language in real-life scenarios. The integrated skills curriculum develops the self-confidence of the student for the purpose of success in professional and social encounters within the global English-speaking community.
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> <li>1. Search and understand information about vocabulary, pronunciation, usage, and grammar in reference texts, online resources, and English-language dictionaries.</li> <li>2. Develop the English speaking skills needed to become a contributing participant in small group activities, large group discussions, and oral presentations.</li> <li>3. Understand texts using effective learning strategies for reading and building vocabulary.</li> <li>4. Demonstrate an appropriate level of control over grammatical accuracy and lexical adequacy in written and oral communication.</li> </ol>
<b>Indicative Contents</b> المحتويات الإرشادية	Ability to communicate effectively with engineers, other professionals, and the community at large.

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	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

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	33	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعياً	2
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	67	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعياً	4.4
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	100		

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

<b>Delivery Plan (Weekly Syllabus)</b> المنهاج الاسبوعي النظري	
	<b>Material Covered</b>
<b>Week 1</b>	Unit One – Hello!
<b>Week 2</b>	Unit Two – Your world!
<b>Week 3</b>	Unit Three – Personal information
<b>Week 4</b>	Unit Four – Family and friends
<b>Week 5</b>	Unit Five – It's my life!
<b>Week 6</b>	Unit Six – Every day
<b>Week 7</b>	Midterm Exam
<b>Week 8</b>	Unit Seven – Places I like!
<b>Week 9</b>	Unit Eight – Where I live!
<b>Week 10</b>	Unit Nine – Happy birthday!
<b>Week 11</b>	Unit Ten – We had a good time!
<b>Week 12</b>	Unit Eleven – We can do it!
<b>Week 13</b>	Unit Twelve – Thank you very much!
<b>Week 14</b>	Unit Thirteen – Here and now!
<b>Week 15</b>	Unit Fourteen – It's time to go!
<b>Week 16</b>	<b>Preparatory week before the final Exam</b>

## Learning and Teaching Resources

### مصادر التعلم والتدريس

<b>Required Texts</b>	(1) New Headway Plus (Beginning) by John and Liz Soars, Oxford: Oxford University Press (2006)
<b>Learning Tools</b>	<ol style="list-style-type: none"> <li>1. Lectures.</li> <li>2. Homework and assignments</li> <li>3. Tests and exams.</li> <li>4. Classroom questions and discussions.</li> <li>5. Reports and presentations</li> </ol>
<b>Evaluation Method</b>	<ol style="list-style-type: none"> <li>1. Examinations and tests.</li> <li>2. Student participation during lectures.</li> <li>3. A questionnaire about the curricula and the faculty member (teacher).</li> </ol>

## Grading Scheme

### مخطط الدرجات

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

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Physical Geology		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code			
ECTS Credits	8		
SWL (hr/sem)			
Module Level		Semester of Delivery	
Administering Department	Remote Sensing	College	Remote Sensing and geophysics
Module Leader	Linaz Anis Fadhil	e-mail	linaz@kus.edu.iq
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		Version Number	

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	1	Semester	1
Co-requisites module		Semester	

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<b>Module Aims</b> أهداف المادة الدراسية	The ability of student to understand the earth materials and their operations .
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"><li>1. What the geologist do.</li><li>2. What are the benefits of studying earth?</li><li>3. Understand mechanisms that illustrate the main component of the earth</li><li>4. How are the rocks form from magma and its operations?</li><li>5. Soil horizons and their characteristics</li><li>6. The geologic recourses how can save and use</li><li>7. The products of weathering and their roles</li><li>8.</li></ol>
<b>Indicative Contents</b> المحتويات الإرشادية	Figures. Tables, glass and wood samples and Illustration blocks with motion

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	
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## Student Workload (SWL)

### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل			
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل			
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل			

## Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)		
	Assignments	2	10% (10)		
	Projects / Lab.	1	10% (10)		
	Report	1	10% (10)		
Summative assessment	Midterm Exam	2 hr	10% (10)		
	Final Exam	2hr	50% (50)		
<b>Total assessment</b>			100% (100 Marks)		

## Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	What is geology and why study earth
Week 2	Minerals properties and groups
Week 3	The rock cycle
Week 4	Igneous rocks and volcanisms
Week 5	Weathering and soil
Week 6	Sediments and Sedimentary rocks
Week 7	Metamorphism and Metamorphic rocks
Week 8	Geological structures
Week 9	Earthquakes
Week 10	Streams and floods
Week 11	Ground water
Week 12	Glaciation
Week 13	Mass wasting
Week 14	Climate change
Week 15	Geological resources
Week 16	Preparatory week before the final Exam Examination



## Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Crystallography : crystal and its parts
Week 2	Classification of crystals
Week 3	Symmetry
Week 4	Minerals properties
Week 5	Minerals properties
Week 6	Igneous rocks intrusive
Week 7	Igneous rocks extrusive

## Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Earle, S. (2015). Physical Geology. Victoria, B.C.: BCcampus. Retrieved from <a href="https://opentextbc.ca/geology/">https://opentextbc.ca/geology/</a>	
Recommended Texts	Principles of Earth science, 2014: Saadi Al Dahaan	
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
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# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Satellite Image Processing		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	RSD2117		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level		Semester of Delivery	
Administering Department	Remote Sensing	College	Remote Sensing & Geophysics College
Module Leader	Aurass Muhi Taha	e-mail	<a href="mailto:auraasssoil@kus.edu.iq">auraasssoil@kus.edu.iq</a>
Module Leader's Acad. Title	Professor	Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	01/06/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	RSD1205	Semester	Two
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 main aim of a module on satellite image processing is to provide students with the knowledge and skills necessary to process, analyze and interpret satellite imagery. Some specific module aims of satellite image processing may include:

1. Understanding the principles of satellite image processing: Students should be able to explain the basic principles of satellite image processing, including the types of sensors and platforms used, image acquisition, pre-processing and enhancement.

2. Familiarity with satellite image data and tools: Students should be able to access and analyze satellite image data, using software tools such as image processing software, GIS and remote sensing software. They should be able to interpret and manipulate satellite imagery and understand the limitations and challenges of working with satellite image data.

3. Knowledge of image processing techniques: Students should have a solid understanding of the various image processing techniques such as image enhancement, image classification, and image fusion. They should be able to apply these techniques to satellite imagery.

4. Ability to interpret and analyze satellite imagery: Students should be able to use satellite imagery to identify and analyze patterns in land cover, land use, and environmental change. They should be able to interpret satellite imagery to guide decision-making and support environmental monitoring efforts.

5. Applications of satellite image processing in real-world scenarios: Students should be able to apply their knowledge of satellite image processing to real-world scenarios such as urban planning, disaster management, agriculture and environmental management. They should be able to communicate their findings effectively to stakeholders and decision-makers, and understand the ethical and social implications of their work.

Overall, the module aims to provide students with a solid foundation in the theory and practice of satellite image processing and prepare them for careers in fields such as remote sensing, GIS, environmental science, and urban planning.

<p><b>Module Learning Outcomes</b></p> <p>مخرجات التعلم للمادة الدراسية</p>	<p>The learning outcomes of a module on satellite image processing may vary depending on the specific goals and objectives of the course, the level of the course (undergraduate or postgraduate), and the resources available. However, some common learning outcomes of such a module could include:</p> <ol style="list-style-type: none"> <li>1. Understanding the principles of satellite image processing: Students should be able to explain the basic principles of satellite image processing, including the types of sensors and platforms used, image acquisition, pre-processing, and enhancement.</li> <li>2. Familiarity with satellite image data and tools: Students should be able to access and analyze satellite image data, using software tools such as image processing software, GIS, and remote sensing software. They should be able to interpret and manipulate satellite imagery and understand the limitations and challenges of working with satellite image data.</li> <li>3. Knowledge of image processing techniques: Students should have a solid understanding of the various image processing techniques such as image enhancement, image classification, and image fusion. They should be able to apply these techniques to satellite imagery.</li> <li>4. Ability to interpret and analyze satellite imagery: Students should be able to use satellite imagery to identify and analyze patterns in land cover, land use, and environmental change. They should be able to interpret satellite imagery to guide decision-making and support environmental monitoring efforts.</li> <li>5. Applications of satellite image processing in real-world scenarios: Students should be able to apply their knowledge of satellite image processing to real-world scenarios such as urban planning, disaster management, agriculture, and environmental management. They should be able to communicate their findings effectively to stakeholders and decision-makers, and understand the ethical and social implications of their work.</li> <li>6. Critical thinking and problem-solving skills: Students should develop critical thinking and problem-solving skills to evaluate the quality and reliability of satellite image data and analyses. They should be able to identify potential sources of error and uncertainty and understand how to mitigate them.</li> <li>7. Interdisciplinary skills: Students should understand the interdisciplinary nature of</li> </ol>
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	<p>satellite image processing and develop the skills to work with experts from different fields, such as remote sensing, GIS, computer science, statistics, and other disciplines.</p> <p>8. Communication and teamwork skills: Students should develop communication and teamwork skills by working on group projects, presenting their findings, and communicating effectively with stakeholders and decision-makers.</p> <p>Overall, the learning outcomes of a module on satellite image processing should provide students with a comprehensive understanding of the theory and practice of satellite image processing, as well as the tools and techniques necessary to apply this knowledge in real-world scenarios. The module should prepare students for careers in fields such as remote sensing, GIS, environmental science, and urban planning.</p>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p>The indicative contents of a module on satellite image processing may vary depending on the specific goals and objectives of the course and the level of the course (undergraduate or postgraduate). However, some common topics that could be covered in such a module include:</p> <ol style="list-style-type: none"> <li>1. Introduction to satellite remote sensing: Electromagnetic spectrum, platforms and sensors, resolution, spatial, spectral and temporal dimensions, and image classification.</li> <li>2. Principles of satellite image processing: Image acquisition, pre-processing, image enhancement, image classification, and accuracy assessment.</li> <li>3. Image processing techniques: Image enhancement techniques such as contrast stretching, histogram equalization, and filtering. Image classification techniques such as supervised and unsupervised classification, object-based image analysis, and change detection.</li> <li>4. Applications of satellite image processing: Land use/land cover mapping, urban planning, environmental monitoring, disaster management, and agriculture.</li> <li>5. Data integration with other sources: Integration of satellite image data with other sources such as ground truth data, GIS data, and geospatial models.</li> <li>6. Advanced topics in satellite image processing: Hyperspectral remote sensing, lidar</li> </ol>

	<p>remote sensing, machine learning techniques, and data fusion.</p> <p>7. Interpretation and analysis of satellite imagery: Interpretation of satellite imagery to identify land cover types, land use patterns, and environmental changes. Analysis of satellite imagery to inform decision-making and support environmental monitoring efforts.</p> <p>8. Case studies and real-world applications: Examples of satellite image processing in different environmental and societal settings, such as natural resource management, land use planning, and disaster response.</p> <p>9. Ethical and social implications of satellite image processing: Ethical considerations related to the use of satellite image processing in different fields, such as environmental management, urban planning, and national security.</p> <p>Overall, the indicative contents of a module on satellite image processing should provide students with a comprehensive understanding of the theory and practice of satellite image processing, as well as the tools and techniques necessary to apply this knowledge in real-world scenarios.</p>
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<b>Learning and Teaching Strategies</b> <b>استراتيجيات التعلم والتعليم</b>	
<b>Strategies</b>	<p>The learning and teaching strategies for a module on satellite image processing may vary depending on the specific goals and objectives of the course, the level of the course (undergraduate or postgraduate), and the resources available. However, some common learning and teaching strategies that could be used in such a module include:</p> <ol style="list-style-type: none"> <li>1. Lectures: Lectures can provide an overview of the key concepts and theories related to satellite image processing. Lectures can be delivered in person or online, and may be complemented by slides, videos, or other multimedia resources.</li> <li>2. Practical sessions: Practical sessions can provide hands-on experience with satellite image processing tools and techniques. These sessions may involve working with real or simulated satellite image data, using software tools such as image processing software, GIS, and remote sensing software, and interpreting and analyzing satellite imagery.</li> </ol>

3. Fieldwork: Fieldwork can provide students with an opportunity to collect ground-truth data and validate satellite image measurements. Fieldwork may involve collecting field observations, measuring environmental variables such as vegetation indices, or mapping land cover using handheld GPS devices.

4. Case studies and group projects: Case studies and group projects can help students apply their knowledge of satellite image processing to real-world scenarios. These activities may involve analyzing satellite image data to solve specific problems, such as mapping land use changes or predicting environmental risks under different scenarios.

5. Guest lectures and seminars: Guest lectures and seminars can provide students with insights from experts in the field of satellite image processing. These sessions may be delivered by researchers, practitioners, or policymakers, and may cover topics such as the latest developments in satellite image processing technology or the use of satellite imagery in environmental management.

6. Online resources: Online resources such as discussion forums, online tutorials, and interactive quizzes can provide students with additional opportunities to engage with the course material and test their understanding of key concepts.

Overall, the learning and teaching strategies of a module on satellite image processing should be designed to provide a balance of theoretical knowledge and practical skills, and should prepare students for careers in fields such as remote sensing, GIS, environmental science, and urban planning. The use of hands-on practical sessions and case studies can be particularly effective in helping students develop the skills and confidence necessary to apply satellite image processing techniques in real-world scenarios.

### Student Workload (SWL)

#### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	64	<b>Structured SWL (h/w)</b> الحمل الدراسي المنتظم للطالب أسبوعياً	
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	<b>Unstructured SWL (h/w)</b> الحمل الدراسي غير المنتظم للطالب أسبوعياً	
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	125		



## Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)		
	Assignments	2	10% (10)		
	Projects / Lab.	1	10% (10)		
	Report	1	10% (10)		
Summative assessment	Midterm Exam	2 hr	10% (10)		
	Final Exam	2hr	50% (50)		
<b>Total assessment</b>			100% (100 Marks)		

## Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Image Processing Concept
Week 2	Image Geometric Calibration
Week 3	Radiometric Calibration
Week 4	Atmospheric Correction
Week 5	Noise Reduction Processing
Week 6	RGB-HIS Transformation Processing
Week 7	<b>Mid-term Exam</b>
Week 8	Haze Reduction Processing
Week 9	Image Enhancement
Week 10	Contrast Stretching
Week 11	Histogram Matching
Week 12	Spectral Reflectance Computation
Week 13	Spatial Filtering
Week 14	Edge Enhancement and Detection
Week 15	Panchromatic Band Sharpen
Week 16	<b>Preparatory week before the final Exam</b>

## Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Image Geometric Calibration
Week 2	Radiometric Calibration for Landsat 4,5, and 7
Week 3	Radiometric Calibration for Landsat 8 and 9
Week 4	Landsat 4,5, and 7 Reflectance Calculation
Week 5	Landsat 8 and 9 Reflectance Calculation
Week 6	Histogram Equalization
Week 7	Panchromatic Band Sharpen

## Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Jensen, J. R. (2005). Introductory Digital Image Processing: A Remote Sensing Perspective. Prentice Hall. New Jersey. USA.	Yes
Recommended Texts	Campbell, James B. & Randolph H. Wynne. (2011). Introduction to Remote Sensing. The Guilford Press. New York & London. 5 <sup>th</sup> Edition.	No
Websites	<a href="https://www.youtube.com/channel/UCOOUW1LA5B93j5V0oNVYN6Q">https://www.youtube.com/channel/UCOOUW1LA5B93j5V0oNVYN6Q</a>	

## Grading Scheme

مخطط الدرجات

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

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	<b>Introduction to GIS</b>		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code			
ECTS Credits	6		
SWL (hr/sem)	150		
Module Level		Semester of Delivery	
Administering Department		College	
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		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	RSC205	Semester	4

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Aims</b></p> <p>أهداف المادة الدراسية</p>	<ul style="list-style-type: none"><li>• To introduce students to the fundamental concepts and principles of GIS</li><li>• To provide an overview of the components, applications, and historical development of GIS</li><li>• To familiarize students with GIS data models, structures, and spatial analysis functions</li><li>• To develop an understanding of coordinate systems, map projections, and their role in GIS</li><li>• To explore the differences between remote sensing and GIS</li><li>• To showcase various applications of GIS in different domains</li></ul>
<p><b>Module Learning Outcomes</b></p> <p>مخرجات التعلم للمادة الدراسية</p>	<p>By the end of this module, students should be able to:</p> <ol style="list-style-type: none"><li>1. Define GIS and explain its objectives in various fields.</li><li>2. Summarize the historical development of GIS and identify key milestones.</li><li>3. Recognize the components that constitute a GIS system and their roles.</li><li>4. Understand and differentiate between different types of maps and map scales.</li><li>5. Describe GIS data models and structures, including vector and raster models.</li><li>6. Explain the concept of attributes and their importance in GIS.</li><li>7. Demonstrate knowledge of geodatabases and metadata in GIS.</li><li>8. Understand the fundamentals of coordinate systems and map projections.</li><li>9. Perform basic GIS functions, including data acquisition, processing, analysis, storage, and output.</li><li>10. Differentiate between remote sensing and GIS and highlight their respective contributions.</li><li>11. Identify and discuss various applications of GIS in different fields.</li></ol>
<p><b>Indicative Contents</b></p> <p>المحتويات الإرشادية</p>	<ul style="list-style-type: none"><li>• Introduction to GIS, including its definition, objectives, and historical background</li><li>• Overview of the early developments in GIS and their significance</li><li>• Components of GIS and their roles in data management and analysis</li><li>• Introduction to maps, map scales, and different types of maps</li><li>• GIS data models and structures, including vector and raster models</li></ul>

	<ul style="list-style-type: none"> <li>• Understanding attributes and their importance in GIS data</li> <li>• Geodatabases and metadata in GIS for effective data organization</li> <li>• Coordinate systems and map projections and their application in GIS</li> <li>• GIS functions and operations, such as data acquisition, processing, analysis, storage, and output</li> <li>• Exploring the differences between remote sensing and GIS</li> <li>• Various applications of GIS in different domains, highlighting real-world examples</li> </ul>
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<b>Learning and Teaching Strategies</b> استراتيجيات التعلم والتعليم	
<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Lectures to deliver theoretical concepts, definitions, and historical context</li> <li>• Interactive discussions to engage students in exploring the components and applications of GIS</li> <li>• Practical lab sessions to provide hands-on experience with GIS software, data management, and analysis</li> <li>• Assignments and projects to allow students to apply their knowledge and skills in practical scenarios</li> <li>• Case studies and examples to demonstrate the real-world applications of GIS in different fields</li> <li>• Group discussions and presentations to encourage active participation and knowledge sharing among students</li> <li>• Review sessions to consolidate and reinforce the concepts covered in previous modules</li> </ul>

<b>Student Workload (SWL)</b> الحمل الدراسي للطالب			
<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	86		
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	64		
<b>Total SWL (h/sem)</b> 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)		
	Assignments	2	10% (10)		
	Projects / Lab.	1	10% (10)		
	Report	1	10% (10)		
Summative assessment	Midterm Exam	2 hr	10% (10)		
	Final Exam	2hr	50% (50)		
Total assessment			100% (100 Marks)		

## Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to GIS <ul style="list-style-type: none"> <li>• Definition and objectives of GIS</li> <li>• History of GIS</li> </ul>
Week 2	<ul style="list-style-type: none"> <li>• Early developments in GIS</li> <li>• Components of GIS</li> <li>• Applications of GIS</li> </ul>
Week 3	Map and Map Scales <ul style="list-style-type: none"> <li>• Introduction to maps</li> <li>• Map scales</li> <li>• Types of maps</li> </ul>
Week 4	GIS Data Models and Structure <ul style="list-style-type: none"> <li>• Introduction to GIS data models</li> <li>• Vector model and structure</li> </ul>
Week 5	<ul style="list-style-type: none"> <li>• Raster model and structure</li> <li>•</li> </ul>
Week 6	<ul style="list-style-type: none"> <li>• Attributes</li> <li>• Geodatabase and metadata</li> </ul>

	•
<b>Week 7</b>	<b>Mid-term Exam</b>
<b>Week 8</b>	Coordinate System and Projection in GIS <ul style="list-style-type: none"> <li>• Understanding Earth</li> <li>• Coordinate systems part 1</li> <li>•</li> </ul>
<b>Week 9</b>	<ul style="list-style-type: none"> <li>• Coordinate systems part 2</li> <li>• Map projections</li> </ul>
<b>Week 10</b>	GIS Functions (Operations) <ul style="list-style-type: none"> <li>• Data acquisition (spatial and non-spatial)</li> <li>• Data processing (data management)</li> <li>• Data analysis (spatial and statistical analysis)</li> <li>• Data storage (efficient data storage techniques)</li> <li>• Data output (maps, graphs, tables, reports)</li> </ul>
<b>Week 11</b>	Differences between Remote Sensing and GIS
<b>Week 12</b>	Review and Consolidation of Concepts Covered in Previous Modules
<b>Week 13</b>	GIS Applications
<b>Week 14</b>	GIS Applications
<b>Week 15</b>	GIS Applications
<b>Week 16</b>	<b>Preparatory week before the final Exam</b>

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
<b>Week 1</b>	Introducing GIS
<b>Week 2</b>	Introducing ArcGIS
<b>Week 3</b>	Interacting with maps (Exploring a GIS Map) <ul style="list-style-type: none"> <li>• Displaying map data</li> <li>• Navigating a map</li> </ul>



<b>Week 4</b>	Interacting with maps (Exploring a GIS Map) continued <ul style="list-style-type: none"> <li>• 3.3: Using basic tools</li> <li>• 3.4: Looking at feature attributes</li> </ul>
<b>Week 5</b>	Interacting with data (Managing GIS Data) <ul style="list-style-type: none"> <li>• 4.1: Browsing through map data</li> <li>• 4.2: Adding data to a map</li> </ul>
<b>Week 6</b>	Interacting with data (Managing GIS Data) continued <ul style="list-style-type: none"> <li>• 4.3: Working with map layers</li> <li>• 4.4: Creating simple shapefiles</li> </ul>
<b>Week 7</b>	<b>Mid-term Exam</b>
<b>Week 8</b>	Exploring online resources <ul style="list-style-type: none"> <li>• 5.1: Creating a web map</li> </ul>
<b>Week 9</b>	Exploring online resources continued <ul style="list-style-type: none"> <li>• 5.2: Merging online and local layers</li> <li>• 5.3: Sharing a map package</li> </ul>
<b>Week 10</b>	Creating simple shapefiles
<b>Week 11</b>	Introducing Projections and Coordinate Systems <ul style="list-style-type: none"> <li>• 7.1: Define projection</li> </ul>
<b>Week 12</b>	Introducing Projections and Coordinate Systems continued <ul style="list-style-type: none"> <li>• 7.2: Project data</li> </ul>
<b>Week 13</b>	Review and consolidation of concepts covered in previous labs
<b>Week 14</b>	Final project work and presentations
<b>Week 15</b>	Review and preparation for assessments/exams

### Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	"GIS Fundamentals: A First Text on Geographic Information Systems" by Paul Bolstad	

<b>Recommended Texts</b>	Geographic Information Systems and Science" by Paul A. Longley, Michael F. Goodchild, David J. Maguire, and David W. Rhind
<b>Websites</b>	

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Linear Algebra		Module Delivery	
Module Type	S		<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	RSC208			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level		Semester of Delivery		2
Administering Department	Rs	College	RG	
Module Leader	Sajeda Kareem Radhi		e-mail	sajeda.kareem@kus.edu.iq
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	Ph.D.
Module Tutor	1		e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1/6/2023		Version Number	

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><b>Module Aims</b> أهداف المادة الدراسية</p>	<ol style="list-style-type: none"><li>1. Learn about the properties of matrices.</li><li>2. Familiarity with the properties of determinants and how to find them.</li><li>3. Learn to solve a system of algebraic equations using the matrix method.</li><li>4. Learn about vectors, vector space and their properties.</li><li>5. Knowing ways to find eigenvalues.</li><li>6. Recognize orthogonality.</li></ol>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"><li>1. Understand linear equations, vectors, and matrices.</li><li>2. Know what vector spaces are and how to prove properties about them.</li><li>3. Understand how your new tools and knowledge connect to sample real-world examples.</li></ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<ol style="list-style-type: none"><li>1- To believe in the relationship of mathematics and its importance to his specialization.</li><li>2- To discuss the relationship between mathematics and physical phenomena.</li><li>3- To follow the sequence of the concepts presented and their relationship to his specialization.</li></ol>

## Learning and Teaching Strategies

## استراتيجيات التعلم والتعليم

<b>Strategies</b>	<ul style="list-style-type: none"> <li>• Following up the scientific development of mathematics by reviewing modern curricula.</li> <li>• Follow-up and development of academic courses and compare them with other universities.</li> <li>• Using the latest teaching aids to motivate the student to learn and understand.</li> </ul>
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## Student Workload (SWL)

### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	44		
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	56		
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	100		

## Module Evaluation

### تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	2	10% (10)	5,10	Lo# 1,2,10 and 11
	<b>Assignments</b>	2	10% (10)	2,12	Lo# 3,4,6 and 7
	<b>Projects / Lab.</b>				
	<b>Report</b>		10% (10)	13	Lo# 5,8 and 10
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	10% (10)	7	Lo# 1-7
	<b>Final Exam</b>	2hr	60% (60)	16	All
<b>Total assessment</b>			100% (100 Marks)		

### Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Algebra of Matrices
Week 2	Algebra of Matrices
Week 3	Determinants
Week 4	Determinants
Week 5	Determinants
Week 6	Systems of linear equations
Week 7	Systems of linear equations
Week 8	Systems of linear equations
Week 9	Vectors
Week 10	Vectors
Week 11	Eigenvalues and Eigenvectors
Week 12	Eigenvalues and Eigenvectors
Week 13	Eigenvalues and Eigenvectors
Week 14	Vector Spaces
Week 15	Orthogonality
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	Linear Algebra: A modern Introduction, David Poole, Third Edition, Amazon, 2011.	yes
Recommended Texts	Linear Algebra with Applications, Gareth Williams, Eighth Edition, 2014.	yes
Websites	Various lectures and lecture notes on the internet.	

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

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information				
معلومات المادة الدراسية				
Module Title	Chemistry		Module Delivery	
Module Type	Core		<input checked="" type="checkbox"/> Theory <input checked="" type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input checked="" type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input checked="" type="checkbox"/> Seminar	
Module Code	S			
ECTS Credits	6			
SWL (hr/sem)	150			
Module Level	1	Semester of Delivery		1
Administering Department	Remote sensing	College	Remote sensing & Geophysics	
Module Leader	Shaimaa Ahmad Hassan		e-mail	Dr.shaimaa_altaee@kus.edu.iq
Module Leader's Acad. Title	Assistant Professor		Module Leader's Qualification	Ph.D.
Module Tutor			e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date	1/6/2023	Version Number		

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

<b>Module Aims</b> أهداف المادة الدراسية	<ol style="list-style-type: none"><li>1. Learn what organic, inorganic and analytical chemistry means.</li><li>2. Learn the calculation methods used in analytical chemistry.</li><li>3. Identify the types and naming of inorganic compounds.</li><li>4. Identify the different methods for calculating the concentrations of solutions.</li><li>5. Identify the types of naming organic compounds.</li></ol>
<b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"><li>1- The student distinguishes between the types of organic and inorganic compounds.</li><li>2- Learn how to find the chemical concentrations of solutions.</li><li>3- The student distinguishes between saturated and unsaturated. hydrocarbons</li><li>4- Master the effect of the acid function on solutions.</li></ol>
<b>Indicative Contents</b> المحتويات الإرشادية	

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	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 interesting for example sampling activities for the students. As well as by assigning students to make seminars on a specific topic in chemistry.
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## Student Workload (SWL)

### الحمل الدراسي للطالب

<b>Structured SWL (h/sem)</b> الحمل الدراسي المنتظم للطالب خلال الفصل	100		
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	50		

<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	150
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<b>Module Evaluation</b> تقييم المادة الدراسية					
		<b>Time/Number</b>	<b>Weight (Marks)</b>	<b>Week Due</b>	<b>Relevant Learning Outcome</b>
<b>Formative assessment</b>	<b>Quizzes</b>	2	10% (10)	5,10	1,2,10 and 11
	<b>Assignments</b>	2	10% (10)	2,12	3,4,6,and 7
	<b>Projects / Lab.</b>	1	10% (10)	Continues	
	<b>Report</b>	1	10% (10)	13	5,8,and 10
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	10% (10)	7	1-7
	<b>Final Exam</b>	2hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

<b>Delivery Plan (Weekly Syllabus)</b> المنهاج الاسبوعي النظري	
	<b>Material Covered</b>
<b>Week 1</b>	Inorganic chemistry
<b>Week 2</b>	Atomic number, mass number and isotope
<b>Week 3</b>	An overview of the periodic table
<b>Week 4</b>	Names and Formulas of Inorganic Compounds
<b>Week 5</b>	Ionic bond, covalent bond and metallic bond
<b>Week 6</b>	Molecular shape and VSEPR model
<b>Week 7</b>	Organic chemistry
<b>Week 8</b>	Introduction to Hydrocarbons
<b>Week 9</b>	Hydrocarbon (alkane, alkene, alkyne and Aromatic compounds)
<b>Week 10</b>	Hydrocarbon Sources and Separation (Natural Gas and Petroleum or Crude Oil)
<b>Week 11</b>	Use of Hydrocarbons (Refined Petroleum Products, Transportation Fuels and Plastic)
<b>Week 12</b>	Analytical chemistry
<b>Week 13</b>	Qualitative and quantitative analysis
<b>Week 14</b>	Gravimetric Analysis

<b>Week 15</b>	Volumetric Analysis (TITRATION)
<b>Week 16</b>	Preparatory week before the final Exam

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
<b>Week 1</b>	General Safety Rules
<b>Week 2</b>	Common Laboratory Apparatus
<b>Week 3</b>	Method for the express of concentration
<b>Week 4</b>	Prepare Dilute Solution
<b>Week 5</b>	To prepare and standardize 0.1 N HCl using sodium carbonate as primary standard
<b>Week 6</b>	Soil pH Protocol
<b>Week 7</b>	Determination of melting point

### Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	<p><b>Principles of Inorganic Chemistry, 2nd Edition</b>            Brian W. Pfennig December 2021</p> <p>Principles of Organic Chemistry            1st Edition - January 27, 2015</p>	No
<b>Recommended Texts</b>	<p>Principles of Instrumental Analysis, 7E            by Douglas A. Skoog/F. James Holler/Stanley R. Crouch , 2020</p>	No
<b>Websites</b>	<p><a href="https://chem.libretexts.org/Bookshelves/General_Chemistry/Map%3A_Chemistry_-_The_Central_Science">https://chem.libretexts.org/Bookshelves/General_Chemistry/Map%3A_Chemistry_-_The_Central_Science</a>.</p>	

### Grading Scheme

مخطط الدرجات

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

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



## MODULE DESCRIPTION FORM



### نموذج وصف المادة الدراسية

**University Name:** AlKarkh University of Science

**College:** Renewable Energy and Environmental Science

**Dept:**

Module Information			
معلومات المادة الدراسية			
Module Title	Mathematics		Module Delivery
Module Type	Core		<input checked="" type="checkbox"/> Theory Lecture Lab x Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	Kus1102		
ECTS Credits	5		
SWL (hr/sem)	125		
Module Level		Semester of Delivery	
Administering Department		College	College of energy and environmental science
Module Leader	Haleema swaidan ali	e-mail	haleemaswaidan@kus.edu.iq
Module Leader's Acad. Title	Proof.	Module Leader's Qualification	Ph.D
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date		Version Number	

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

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Aims</b> أهداف المادة الدراسية</p>	<ol style="list-style-type: none"> <li>1. Introducing students to mathematical concepts in the subject of linear algebra and matrices.</li> <li>2. Use and apply these concepts to solve applied problems.</li> <li>3. Teach students to analyze results using mathematical methods.</li> <li>4. Teaching students some special functions and their properties.</li> <li>5. Teaching students to mix and combine mathematical concepts with practical problems.</li> <li>6. Introducing students to the importance of mathematics</li> </ol>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"> <li>1. Solving mathematical problems with scientific material.</li> <li>2. Writing scientific reports and analyzing data.</li> <li>3. Self learning method.</li> <li>4. Solving problems relevant with mathematical subject.</li> <li>5. Testing the student's ability to solve mathematical problems related to the subjects he studied.</li> </ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<ol style="list-style-type: none"> <li>1. Introduction to Linear Algebra.</li> <li>2. Linear system -Linear Equations –Solution Of Linear Equations.</li> <li>3. Matrix Algebra.</li> <li>4. Logarithmic function.</li> <li>5. Trigonometric functions.</li> <li>6. Exponential function.</li> <li>7. Techniques of integrations.</li> </ol>

## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<p><b>Strategies</b></p>	<ol style="list-style-type: none"> <li>1. Lectures: Providing students with basic mathematical concepts and their practical applications.</li> <li>2. Forming discussion groups during lectures to discuss mathematics topics and solve practical problems.</li> <li>3. Ask the students a set of thinking questions during the lectures, such as what, how, when and why for specific topics in mathematics.</li> <li>4. Giving students homework that requires self-explanations in different ways.</li> <li>5. Writing scientific reports and analyzing data.</li> <li>6. solving problems relevant with mathematical subject.</li> </ol>
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## Student Work load (SWL)

### الحمل الدراسي للطالب ل 15 اسبوعاً

<p><b>Structured SWL (h/sem)</b></p>	<p>45</p>	<p><b>Structured SWL (h/sem)</b></p>	<p>5</p>
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الحمل الدراسي المنتظم للطالب خلال الفصل		الحمل الدراسي المنتظم للطالب خلال الفصل	
<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	80	<b>Unstructured SWL (h/sem)</b> الحمل الدراسي غير المنتظم للطالب خلال الفصل	5.3
<b>Total SWL (h/sem)</b> الحمل الدراسي الكلي للطالب خلال الفصل	125 (h/sem)		

<b>Module Evaluation</b> تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
<b>Formative assessment</b>	<b>Quizzes</b>	2	10% (10)	5 and 10	Lo #2,#4,#6,#8,#10
	<b>Assignments</b>	2	10% (10)	2 and 12	Lo #1, #3,#5,#7,#9,#11
	<b>Projects / Lab.</b>	1	5%(5)	13	All
	<b>Report</b>	1	5% (5)	14	All
<b>Summative assessment</b>	<b>Midterm Exam</b>	2 hr	20% (20)	8	Lo #1-#8
	<b>Final Exam</b>	3hr	50% (50)	16	All
<b>Total assessment</b>			100% (100 Marks)		

## Delivery Plan (Weekly Syllabus)

### المنهاج الاسبوعي النظري

	Material Covered
Week 1	Matrices - the concept of matrices - some types of matrices- operations on matrices
Week 2	Determinants, Properties of the determinants ,Calculate the determinant of a 2x2 matrix and a nxn matrix.
Week 3	The Inverse - Matrix - Properties Of The Inverse - Matrix, The Transpose Operation Properties.
Week 4	practical - method for finding the Inverse the cofactor method.
Week 5	solution of linear systems using the inverse matrix- the adjutant inverse.
Week 6	solution of linear systems using The Cramer's rule.
Week 7	solution of linear systems using Gauss_ Jordan Elimination method.
Week 8	Slop of a line, equation of a line, types of line equation.
Week 9	Trigonometric functions - Derivation of trigonometric functions.
Week 10	Integration of Trigonometric Functions - Applications to Trigonometric Functions.
Week 11	Logarithmic function - properties of logarithmic function – derivation of logarithmic function.
Week 12	Integration of the logarithmic function-Applications to the logarithmic function.
Week 13	Exponential function - properties of the exponential function- derivation of the exponential function - integration of the exponential function.
Week 14	Techniques of integrations (by parts, tables)
Week 15	Techniques of integrations ( partial fractions)
Week 16	<b>Preparatory week before the final Exam</b>

## Delivery Plan (Weekly Lab. Syllabus)

### المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	non

## Learning and Teaching Resources

### مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Larson, Ron, and Bruce H. Edwards. Calculus. Cengage Learning , Calculus 2022.	yes
Recommended Texts	Larson, Ron. Precalculus with limits. Cengage Learning.	yes
Websites		



## Grading Scheme

### مخطط الدرجات

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