MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Arabic Language		**Module Delivery**
Module Type	Support		• Theory • Lecture ○ Lab ○ Tutorial ○ Practical ○ Seminar
Module Code	FMIT1206		
ECTS Credits	3		
SWL (Hr./Sem.)	90		
Module Level	1	**Semester of Delivery**	2
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives **أهداف المادة الدراسية**	أهداف المادة الدراسية ان يكون الطالب قادراً على: 1. يتعرف على أنواع الاخطاء اللغوية وتوضيح أسبابها وكيفية تجنبها. 2. يتعلم القواعد المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة وكيفية كتابتها بشكل صحيح. 3. يتعلم قواعد كتابة الالف الممدودة والمقصورة واستخدام الحروف الشمسية والقمرية بشكل صحيح. 4. التعرف على الضاد والظاء ومعرفة كيفية التمييز بينهما في الكتابة. 5. يتعلم طرق كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. 6. التعرف على علامات التقييم واستخدامها بشكل صحيح في النصوص. 7. يفهم الفروق بيت الاسم والفعل والتمييز بينهما في الجمل. 8. يفهم المفاعيل وكيفية استخدامها بشكل صحيح في النصوص.

	9. يتعلم الارقام والعدد واستخدامها في التعبير عن الكميات. 10. يتجنب الاخطاء اللغوية الشائعة في سياقات عملية التعزيز وفهم القواعد وتحسين المهارات اللغوية. 11. يدرس النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. 12. يركز على الجوانب الشكلية للخطاب الاداري وكيفية كتابته بأسلوب صحيح ومناسب. 13. التعرف على لغة الخطاب الاداري وفهم استخدامها في التواصل الإداري. 14. يفهم نماذج من المراسلات الادارية لتطبيق المفاهيم والمهارات المكتسبة في الخطاب الاداري.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	مخرجات التعلم للمادة الدراسية: 1. قدرة الطالب على تحليل وتعريف الأخطاء اللغوية وتطبيق القواعد الصحيحة لتجنبها. 2. القدرة على استخدام القواعد اللغوية المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة بشكل صحيح. 3. قدرة الطالب على استخدام الألف الممدودة والمقصورة بشكل صحيح واستخدام الحروف الشمسية والقمرية بطريقة صحيحة. 4. تمكين الطالب من التمييز بين الضاد والظاء وتطبيق القواعد الصحيحة في الكتابة. 5. القدرة على كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. 6. استخدام عالمات التقييم بشكل صحيح في النصوص المكتوبة. 7. فهم الطالب للفروق بين الاسم والفعل وتمكينهم من استخدامهما بشكل صحيح في الجمل. 8. القدرة على استخدام المفاعيل بشكل صحيح في النصوص المكتوبة. 9. استخدام الأرقام والعدد بطريقة صحيحة للتعبير عن الكميات. 10. التمكن من تطبيق الأخطاء اللغوية الشائعة في سياقات العملية وتصحيحها بشكل مناسب. 11. فهم استخدام النون والتنوين ومعاني حروف الجر واستخدامها بشكل صحيح في الجمل. 12. القدرة على كتابة الخطاب الإداري بأسلوب صحيح ومناسب وفهم لغة الخطاب الإداري. 13. تطبيق المفاهيم والمهارات المكتسبة في كتابة المراسلات الإدارية بشكل صحيح وفعال.
Indicative Contents **المحتويات الارشادية**	المحتويات الإرشادية في مادة اللغة تشمل مجموعة من المفاهيم والمواضيع التي يتم تغطيتها خلال عملية التعلم ومن بين المحتويات الإرشادية المهمة: 1. مقدمة عن الأخطاء اللغوية والتعريف بالتاء المربوطة والتاء الطويلة والتاء المفتوحة. (٤ ساعات) 2. قواعد كتابة الألف الممدودة والمقصورة والتعرف على الحروف الشمسية والقمرية (٤ ساعات) 3. دراسة الضاد والظاء وتعلم طرق كتابتهما بشكل صحيح. (٤ ساعات) 4. تعلم كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. (٤ ساعات) 5. دراسة عالمات الترقيم وتعلم استخدامها بشكل صحيح في النصوص اللغوية. (٤ ساعات) 6. التعرف على الاسم والفعل والتفريق بينهما وفهم القواعد المتعلقة بهما. (٤ ساعات) 7. دراسة المفاعيل وتعلم استخدامها في الجمل اللغوية. (٤ ساعات) 8. التعرف على الأعداد واستخدامها بشكل صحيح في العبارات والجمل. (٤ ساعات)

9. دراسة الأخطاء اللغوية الشائعة وتطبيقاتها في النصوص اللغوية. (٤ ساعات) 10. تعلم استخدام النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. (٣ ساعات) 11. التعرف على الجوانب الشكلية للخطاب الإداري وفهم لغته وقواعده. (٣ ساعات) 12. دراسة نماذج من المراسلات الإدارية وتطبيقها في الكتابة. (٣ ساعات) 13. توفر هذه المحتويات الإرشادية للطالب فهما شاملاً للمفاهيم اللغوية وتعلم القواعد والتطبيقات العملية التي تساعدهم في تطوير مهاراتهم اللغوية.	

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	إستراتيجيات التعلم والتعليم المستخدمة في مادة اللغة تشمل مجموعة متنوعة من النهج والتقنيات التي تعزز عملية التعلم للطالب من بين هذه الاستراتيجيات: 1. التفاعل النشط: يتم تشجيع الطالب على المشاركة والمشاركة الفعالة في الدروس من خلال المناقشات الجماعية والأنشطة التفاعلية. 2. التعلم التعاون: يشجع التعاون والتعاون بين الطالب من خلال العمل الجما ع والمشاريع الجماعية، حيث يتعاون الطالب مع بعضهم البعض لتحقيق أهداف التعلم المحددة. 3. التطبيق العملي: يتم توفير فرص للطالب لتطبيق المفاهيم والمهارات المكتسبة في سياقات عملية وواقعية، مما يعزز التفاعل الفعال مع المادة. 4. استخدام التقنيات الحديثة: يستفيد الطالب من استخدام التكنولوجيا في عملية التعلم، مثل استخدام الحواسيب والإنترنت للبحث والتعلم. 5. توفير ردود فعل فورية: يتم توفير ردود فعل فورية وتقييم مستمر للطالب، سواء عن طريق التقييمات الشفهية أو الكتابية، مما يساعدهم على تحسين أدائهم وتطوير مهاراتهم. 6. التنويع في وسائل التواصل: يتم استخدام مجموعة متنوعة من وسائل التواصل والتعليم، مثل المحاضرات التوضيحية، والمناقشات الجماعية، والأنشطة العملية، والعروض التقديمية، لتلبية احتياجات وأساليب التعلم المختلفة للطالب. 7. باستخدام هذه الاستراتيجيات، يتم تعزيز التفاعل والتعلم الفعال للطالب، وتحفيزهم على المشاركة واكتساب المعرفة والمهارات بشكل شامل وشيق.

Student's Workload (SWL) **الحمل الدراسي للطالب محسوباً ل 14 اسبوع**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	45	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطلاب اسبوعياً**	3
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	45	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب اسبوعياً**	3
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	90		

Module Evaluation تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO 1, 2, 8 and 9
	Assignments	2	10% (10)	2 and 12	LO 3, 4, 6 and 7
	Report	1	10% (10)	14	LO 1 – 14
Summative assessment	**Mid-term Exam**	2hr.	20% (20)	7	LO 1 – 7
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	مقدمة عن الأخطاء اللغوية – التاء المربوطة والتاء الطويلة والتاء المفتوحة
Week 2	قواعد كتابة الالف الممدودة والمقصورة – الحروف الشمسية والقمرية
Week 3	الضاد والظاء
Week 4	كتابة الهمزة
Week 5	علامات الترقيم
Week 6	الاسم والفعل والتفريق بينهما
Week 7	المفاعيل
Week 8	العدد
Week 9	تطبيقات الأخطاء اللغوية الشائعة
Week 10	النون والتنوين – معاني حروف الجر
Week 11	الجوانب الشكلية للخطاب الادراي
Week 12	لغة الخطاب الإداري
Week 13	نماذج المراسلات الإدارية
Week 14	الاستعداد للامتحان النهائي

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	ملزمة اللغة العربية المعممة من وزارة التعليم العالي والبحث العلمي	No
Recommended Texts		
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Computer Applications (IC3)		**Module Delivery**
Module Type	Basic		• Theory • Lecture • Lab ○ Tutorial • Practical ○ Seminar
Module Code	FMIT1102		
ECTS Credits	6		
SWL (Hr./Sem.)	180		
Module Level	1	**Semester of Delivery**	1
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1. To understand the operating system, its types, and their characteristics. 2. To be familiar with the desktop. 3. To be familiar with and manage files and folders. 4. To be familiar with the hardware components of the computer. 5. To be able to use the control panel. 6. To understand the software and its types. 7. To be able to use essential applications (MS Office). 8. To be able to use MS Word program. 9. To be able to use MS Excel program. 10. To be able to use MS PowerPoint program.

	11. To be able to use MS Outlook. 12. To be familiar with search engines and the World Wide Web. 13. To be able to use Google apps.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Demonstrate understanding of operating systems, including their types and characteristics. 2. Navigate and utilize the desktop effectively. 3. Manage files and folders proficiently. 4. Identify and comprehend the hardware components of a computer system. 5. Utilize the control panel efficiently. 6. Differentiate software types and their applications. 7. Effectively utilize essential applications such as MS Office. 8. Demonstrate proficiency in using the MS Word program. 9. Demonstrate proficiency in using the MS Excel program. 10. Demonstrate proficiency in using the MS PowerPoint program. 11. Utilize MS Outlook for email and scheduling purposes. 12. Navigate search engines and utilize the World Wide Web effectively. 13. Utilize Google apps for various tasks.
Indicative Contents **المحتويات الارشادية**	Indictive content includes the following: 1. Introduction to Operating Systems: Definition, functions, and capabilities of an operating system. Types of operating systems (e.g., Windows, macOS, Linux) with examples. Differences between operating systems and software applications. Power options: computer power on/off and power settings. (5 hr.) 2. Exploring the Desktop: Navigating the desktop environment. Using the start button and working with applications. Understanding the relationship between software and hardware, their differences, importance, and influence on each other. Introduction to software updates, security, and bug fixes. Exploring the taskbar. (10 hr.) 3. Files and Folders: Understanding the typical window and file management. Introduction to the Recycle Bin. Concepts of drives, folders, and files, highlighting their differences and importance. Exploring directory and folder hierarchy. 4. Understanding file names and common extensions. (10 hr.) 5. Computer Hardware: Identifying various computer types (mainframe, supercomputers, desktops, laptops, tablets, etc.). Exploring components inside a computer, such as the microprocessor, system memory, and storage systems. 6. Recognizing input/output devices and their interaction. (8 hr.) 7. Main Screen Features: Common features found in word processing, spreadsheet, and presentation software. Understanding the ribbon, tabs, and status bar, and their specific functions in each application. (5 hr.)

	8. MS Office Basics: Definitions and key concepts in MS Office applications and Usage. (15 hr.) 9. Google apps and Gmail (4 hr.) 10. Familiarity with the control panel and its categories and usage. (10 hr.) 11. Software Overview: Understanding software requirements and their implications for hardware. Introduction to different types of application software, including integrated sheets, desktop publishing, spreadsheets, databases, presentations, art, engineering, mathematics, statistics, medical, management, content creation, multimedia, and entertainment. Overview of system protection. (3 hr.) 12. Digital Citizenship: Identifying ethical issues in the digital realm, including intellectual property, copyright, and licensing. Protecting data and computers from software threats and understanding viruses. Ensuring online privacy and security. Guidelines for safe online purchasing and sharing personal information. (5 hr.)

Learning and Teaching Strategies استراتيجيات التعليم والتعلم	
Strategies	Incorporate a mix of theoretical study, hands-on practice, experimentation, and real-world applications to reinforce understanding and proficiency in each of the desired learning outcomes. Seek feedback, engage in discussions, and actively participate in exercises to enhance learning and address any gaps in knowledge.

Student's Workload (SWL) الحمل الدراسي للطالب محسوباً ل 14 اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	88	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطلاب اسبوعياً	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	92	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب اسبوعياً	6.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	180		

Module Evaluation

تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 13	LO 1, 2, 3, 5 and 7
	Assignments	4	10% (10)	8, 9, 10 and 11	LO 7, 8, 9, 10 and 11
	Projects/ Lab.	5	15% (15)	Continuous	ALL
	Report	1	5% (5)	6	LO 4, 7,8 and 12
Summative assessment	**Mid-term Exam**	2hr.	10% (10)	7	LO 1 – 4
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	What is an operating system and what it can do? What types of operating systems (Examples)? The differences between operating systems and software applications; computer power on/off, and power options.
Week 2	Looking at the desktop: navigation on desktop. Using the start button; working with the application. Understanding software and hardware (their differences, importance and relationships).
Week 3	Explain why hardware can influence the operating system and software and vice versa. Software updates, security and bugs. Software ethics and using the taskbar.
Week 4	Files and folders looking at the typical window. Understanding Recycle bin. Concepts of drives, folders, and files (differences and importance). Directory and folder hierarchy and structure. Understanding file names and common extensions.
Week 5	Computer hardware identifying the computer (mainframe, supercomputers, minicomputers, desktop, notebooks, laptops, tablets, PCs, servers, handheld or mobile computers, music on Media players and electronic book readers).
Week 6	Looking inside a computer (microprocessor, system memory and storage systems).
Week 7	Recognizing input/output devices (using the keyboard, pointing devices, microphones, monitor, printers, projector, and speakers). Understanding how it works together.
Week 8	**Mid Term**
Week 9	Looking at the main screen common features (for Word, Excel, and Power Point). Understanding ribbon, tabs, status bar and what is specific for each one of them.
Week 10	Basic definitions and concepts in MS Office.
Week 11	Understanding control Panel and its categories.
Week 12	Understanding user accounts and rights create a new user account,

	change in controls, rights and access.
Week 13	What is software? Checking system requirements and hardware implications, application software, integrated sheets, desktop publishing, spreadsheet, database management, presentation, art, engineering, mathematics, statistics, medical, management, content creation, multimedia, entertainment and system protection).
Week 14	Digital citizenship identifying ethical issues (understanding intellectual property, copyright and licensing). Protecting your data or computer (identifying software threats and understanding viruses). Protecting yourself while online and buying online. How much information should I share? Protecting your privacy.
Week 15	**Preparatory week before the final exam.**

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الأسبوعي للمختبرات**	
Week	**Covered Material**
Week 1	Lab 1: Getting to know computer hardware, turning on and shut down options, looking at the desktop, and using the mouse (pointing, selecting, dragging, scrolling and executing).
Week 2	Lab 2: Create a folder (and file), rename, copy, cut, shortcut, recycle bin, use the start button and hide a folder.
Week 3	Lab 3: Looking at a typical window, control buttons, move, resize a window, view options, select files, file options and use the taskbar.
Week 4	Lab 4: Creating Gmail, basic e-mail functions and using google classroom.
Week 5	Lab 5: Using internet (Google scholar, fining courses and materials, Khan academy and finding resources).
Week 6	Lab 6: MS Office (Word, Excel, PowerPoint, Outlook), start each program and identify the main screen in detail as the title bar, main ribbons, etc.
Week 7	Lab 7: MS Word (Home Tab, Insert Tab, Layout Tab, References Tab, Review Tab, View Tab, Watermark, Page boarders and Page colours).
Week 8	Lab 8: MS Excel (Home Tab, Insert, Page layout, Formula and Data).
Week 9	Lab 9: MS PowerPoint (Home Tab, Insert, Design, Transition and Animation).
Week 10	Lab 10: MS Outlook (Home Tab, Send and Receive). Google apps vs MS Office.
Week 11	Lab 11: Install, open, close, and (Control Panel and Programs). Uninstall applications (internet and other sources).
Week 12	Lab 12: Categories of Control Panel (system and security, power options, network and internet, network and sharing center, personalization (background and color), hardware and sounds (add a device or printer).
Week 13	Lab 13: Categories of Control Panel (user account (create a standard account, change password, picture and name), clock and region (change date, time, and region), ease of access (narrator, magnifier, on-screen keyboard)).
Week 14	**Preparatory week before the final exam.**

Learning and Teaching Resources

مصادر التعلم والتدريس		
Text		**Available in the Library?**
Required Texts	Internet and Computing Core Certification	No
Recommended Texts		
Websites	https://alison.com/tag/microsoft Share and Discover Knowledge on SlideShare	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Differential Mathematics		**Module Delivery**
Module Type	Basic		• Theory ○ Lecture ○ Lab • Tutorial ○ Practical ○ Seminar
Module Code	FMIT1103		
ECTS Credits	5		
SWL (hr./Sem.)	150		
Module Level	1	**Semester of Delivery**	1
Administering Department	TMC – MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem-solving skills and an understanding of Differential calculus through a broad range of Differentiation techniques. 2. To understand limits and theory of derivative and apply it to various types of functions. 3. This is the basic subject for all engineering fields. 4. Demonstrate basic knowledge and understanding of a core of plane analytical geometry, algebra and applied mathematics. 5. Introduce students to Derivatives of trigonometric functions and their inverses.

Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Recall basic concepts of calculus: functions, variables, limits, and continuity. 2. Understand transcendental functions and how a function and its inverse are related. 3. Define Plane analytical geometry and identify how conic sections are formed in addition to define both in words and in algebraic formulae, a circle and its centre and radius, and an ellipse and its foci. 4. Differentiate algebraic and transcendental functions. 5. Discuss Chain rules and applications of the derivatives. 6. Learn how to solve Linear equations by Cramer's rule.
Indicative Contents **المحتويات الارشادية**	Indicative content includes the following: 1. Limits and Transcendental functions; Trigonometric functions, and their inverses, Exponential function and logarithmic function. Plane analytical geometry, parabola, ellipse and hyperbola. [21 hr.] 2. Polar coordinates. theory of derivative - Derivative of trigonometric function, Chain rules, applications of the derivatives. Derivatives of the inverse trigonometric function, derivatives of trigonometric and inverse functions, derivatives of the exponential and natural logarithms functions. Hyperbolic and inverse hyperbolic functions with derivatives. [24 hr.] 3. Determinates, Properties of determinates, and solution of Linear equations by 4. Cramer's rule. [10 hr.] 5. Revision problem classes [6 hr.]

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	The major approach used to offer this module will be to promote student engagement in the exercises while also enhancing and broadening their critical thinking abilities. Classes and interactive lessons will be used to achieve this manner.

Student's Workload (SWL) **الحمل الدراسي للطالب محسوباً ل 14 اسبوع**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	73	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطلاب اسبوعياً**	5
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	77	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب اسبوعياً**	5.5
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	150		

Module Evaluation تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 7	LO 1, 2 and 3
	Assignments	2	10% (10)	2 and 12	LO 4, 5 and 6
	Tutorials	1	10% (10)	Continuous	ALL
Summative assessment	**Mid-term Exam**	2hr.	20% (20)	7	LO 1 – 4
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	Limits and Continuity.
Week 2	Transcendental functions- trigonometric functions, and their inverses.
Week 3	Transcendental functions-Hyperbolic and inverse hyperbolic functions.
Week 4	Transcendental functions-Exponential function and logarithmic function.
Week 5	Plane analytical geometry, parabola & ellipse, hyperbola.
Week 6	Polar coordinates.
Week 7	Mid-term Exam + Theory and rules of derivatives.
Week 8	Implicit Differentiation and Chain Rules.
Week 9	Derivatives of trigonometric functions.
Week 10	Derivatives of inverse trigonometric functions.
Week 11	Derivatives of the exponential and natural logarithms functions.
Week 12	Derivatives of Hyperbolic and inverse hyperbolic functions.
Week 13	Applications of the derivatives.
Week 14	Determinants and properties of determinants.
Week 15	Solution of Linear equations by Cramer's rule.
Week 16	Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
Text		**Available in the Library?**
Required Texts	Engineering Mathematics I	No
Recommended Texts	Thomas Calculus – 14th edition Based on the original work by GEORGE B. THOMAS, JR.	
Websites	https://elearningatria.files.wordpress.com/2013/10/differential-calculus-1-23.pdf http://dl.konkur.in/post/Book/Paye/Thomas-Calculus-14th-Edition-%5Bkonkur.in%5D.pdf	

Grading Scheme مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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: The number of 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	Engineering Drawing		**Module Delivery**
Module Type	Basic		○ Theory ○ Lecture • Lab ○ Tutorial ○ Practical ○ Seminar
Module Code	FMIT1104		
ECTS Credits	5		
SWL (Hr./Sem.)	150		
Module Level	1	**Semester of Delivery**	1
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	The module aims for the Basics of Engineering Drawing course are as follows: 1. To demonstrate proficiency in creating and interpreting engineering drawings: Develop the skills to create accurate and detailed engineering drawings using both manual drafting techniques and computer-aided drafting (CAD) software. Additionally, gain the ability to interpret and understand engineering drawings, including orthographic projections, sections, and assembly drawings. 2. To apply industry standards and practices: Understand and apply the relevant industry standards and practices for engineering drawing, such as dimensioning, tolerancing,

	and geometric dimensioning and tolerancing (GD&T). Ensure that drawings are compliant with applicable standards to facilitate effective communication and manufacturing processes. 3. To develop spatial visualization skills: Enhance your ability to visualize and mentally manipulate objects in three-dimensional space based on two- dimensional drawings. Strengthen your spatial awareness and improve your understanding of complex engineering designs. 4. To demonstrate effective communication of technical information: Acquire the skills to communicate technical information clearly and accurately through annotations, notes, and drawing presentations. Enhance your ability to convey design intent, dimensions, and specifications to other stakeholders, such as engineers, manufacturers, and clients. 5. To apply critical thinking and problem-solving skills in engineering drawing: Develop the ability to analyse and solve engineering drawing problems, such as identifying and resolving dimensional conflicts, addressing design issues, and ensuring proper fit and function of components. Apply critical thinking skills to evaluate and improve the quality and accuracy of engineering drawings.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	Upon completion of the course, students should be able to: 1. Develop Fundamental Skills: The aim is to develop fundamental skills in engineering drawing, including the ability to create accurate and precise technical drawings using appropriate drawing instruments and techniques. 2. Understand Drawing Standards and Conventions: The aim is to familiarize students with drawing standards and conventions used in engineering, enabling them to create drawings that adhere to industry guidelines and ensure clear communication of design intent. 3. Interpret and Create Orthographic Projections: The aim is to enable students to interpret and create orthographic projections of objects, including understanding the principles of Multiview projection, selecting appropriate views, and accurately representing three-dimensional objects in two dimensions. 4. Apply Dimensioning and Tolerancing Principles: The aim is to develop students' ability to apply dimensioning and tolerancing principles to engineering drawings, including understanding different types of dimensions, tolerance symbols, and geometric dimensioning and tolerancing (GD&T) concepts. 5. Familiarize with Computer-Aided Design (CAD): The aim is to introduce students to computer-aided design (CAD) software and develop their proficiency in using CAD tools to

	create and modify technical drawings, improving efficiency and accuracy in engineering design and documentation.
Indicative Contents **المحتويات الارشادية**	**1. Introduction to engineering drawing: [12 hr]** • Overview of the role and significance of engineering drawing in technical fields. • Introduction to different drawing tools and their uses. • Understanding the importance of accuracy and clarity in engineering drawings. **2. Orthographic projections and Multiview drawings: [12 hr]** • Principles and techniques of orthographic projection. • Creating and interpreting Multiview drawings, including front, top, and side views. • Introduction to auxiliary views and sectional views. **3. Dimensioning and tolerancing: [12 hr]** • Understanding dimensioning practices and techniques. • Introduction to geometric dimensioning and tolerancing (GD&T) symbols and concepts. • Applying tolerances to ensure proper fit and functionality of components. **4. Computer-aided drafting (CAD) software: [12 hr]** • Introduction to CAD software and its applications in engineering drawing. • Learning basic commands and tools for creating and modifying drawings. • Hands-on practice with CAD software to create technical drawings. **5. Assembly drawings and exploded views: [11 hr]** • Creation and interpretation of assembly drawings. • Understanding exploded views to visualize the relationship between parts. • Introduction to bill of materials (BOM) and part lists in assembly drawings.

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	When it comes to learning and teaching engineering drawing using AutoCAD, there are several strategies that can be effective. Here are some recommendations: 1. Familiarize with the Software: Before diving into engineering drawing concepts, it's important to become familiar with the AutoCAD software. This includes understanding the user interface, basic tools, and commands. Start with introductory tutorials or online resources that cover the basics of AutoCAD. 2. Start with Fundamentals: Begin by teaching the fundamental concepts of engineering drawing, such as orthographic projection, isometric projection, dimensioning, and tolerancing. Explain the principles and techniques used in creating accurate and clear technical drawings.

	3. Hands-on Practice: Engineering drawing is a practical skill, so provides ample opportunities for hands-on practice. Assign exercises and projects that require students to create different types of drawings using AutoCAD. 4. Encourage them to explore and experiment with various tools and commands. 5. Step-by-Step Instructions: Break down complex drawing tasks into smaller, manageable steps. Provide step-by-step instructions and demonstrations using AutoCAD, showing students how to execute each step effectively. This approach helps students understand the workflow and build their confidence. 6. Visual Aids and Examples: Utilize visual aids, such as slides, diagrams, and examples, to reinforce concepts. Show real-world engineering drawings and explain how they were created using AutoCAD. Visual representations can enhance understanding and make abstract concepts more tangible. 7. Group Activities and Collaboration: Promote collaboration among students by assigning group activities or projects. This allows them to work together, share knowledge, and learn from one another. Encourage students to discuss their approaches and problem-solving techniques related to engineering drawing in AutoCAD. 8. Provide Feedback: Regularly provide constructive feedback on students' drawings. Highlight areas for improvement, suggest alternative methods, and point out common mistakes. This feedback loop is crucial for students to refine their skills and develop a deeper understanding of engineering drawing principles. 9. Stay Updated with AutoCAD Features: AutoCAD is regularly updated with new features and enhancements. Stay up to date with these changes to ensure you're teaching the latest tools and workflows. Familiarize yourself with new capabilities that can improve efficiency and accuracy in engineering drawing. 10. Online Resources and Communities: Encourage students to explore online resources, tutorials, and communities dedicated to AutoCAD and engineering drawing. There are numerous websites, forums, and YouTube channels that offer valuable content and support for learning AutoCAD. 11. Project-Based Learning: Incorporate project-based learning into the curriculum, where students can apply their engineering drawing skills to real-world scenarios. Assign projects that simulate industry-related tasks, such as creating architectural plans, mechanical assemblies, or electrical schematics using AutoCAD.

Student's Workload (SWL) الحمل الدراسي للطالب محسوباً ل 14 اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	59	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطلاب اسبوعياً	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب اسبوعياً	4.3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	180		

Module Evaluation تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	20% (20)	5 and 10	LO 1, 2 and 3
	Assignments	4	10% (10)	2 and 12	LO 3 and 4
	Projects/ Reports	14	10% (10)	14	ALL
Summative assessment	**Mid-term Exam**	2hr.	10% (10)	7	LO 1 – 3
	Final Exam	3hr.	50$ (50)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي للمختبرات	
Week	**Covered Material**
Week 1	*Introduction to Engineering Drawing:* Importance and applications of engineering drawing. Drawing instruments and materials. Drawing standards and conventions.
Week 2	*Lines and Lettering:* Types of lines used in engineering drawing. Line weights and line quality. Techniques for freehand lettering and title block.
Week 3	*Geometric Construction:* Basic geometric shapes and their construction methods. Construction of angles, triangles, and polygons. Division of lines and angles.
Week 4	*Orthographic Projection:* Introduction to orthographic projection. Multiview projection and views of an object. Drawing orthographic views of simple objects.
Week 5	*Sectional Views:* Introduction to sectional views. Types of sectional views (full, half, offset). Drawing sectional views of objects.

Week 6	*Dimensioning and Tolerancing:* Introduction to dimensioning and tolerancing. Types of dimensions (linear, angular, radial). Geometric dimensioning and tolerancing (GD&T).
Week 7	*Auxiliary Views:* Introduction to auxiliary views. Drawing auxiliary views to show true shape and size of inclined surfaces. Solving problems using auxiliary views.
Week 8	*Pictorial Drawings:* Introduction to pictorial drawings (isometric, oblique, perspective). Drawing isometric and oblique pictorial views. Creating exploded views.
Week 9	*Screw Threads and Fasteners:* Introduction to screw threads. Types of screw threads and thread representation. Drawing standard fasteners (bolts, nuts, screws).
Week 10	*Assembly Drawings:* Introduction to assembly drawings. Drawing exploded views and assembly details. Bill of materials (BOM) and part numbering.
Week 11	*Introduction to CAD (Computer-Aided Design):* Overview of CAD software and its benefits. Introduction to basic CAD tools and commands. Creating simple drawings using CAD software.
Week 12	*Isometric Projection:* Introduction to isometric projection. Drawing isometric views of simple objects. Solving problems using isometric projection.
Week 13	*Electrical and Electronic Symbols:* Introduction to electrical and electronic symbols. Drawing basic electrical and electronic circuits. Wiring diagrams and schematic symbols.
Week 14	*Engineering Drawings for Manufacturing:* Introduction to manufacturing drawings. Drawing detailed views and dimensioning for manufacturing. Introduction to tolerances and fits.
Week 15	*Review and Project Work:* Review of course topics and concepts. Project work involving the application of engineering drawing principles.

Learning and Teaching Resources **مصادر التعلم والتدريس**		
Text		**Available in the Library?**
Required Texts	D. A. Madsen, D. P. Madsen, and J. E. Briesacher, Engineering Drawing and Design, 5th ed., Clifton Park, NY: Delmar Cengage Learning, 2011.	No

Recommended Texts	F. E. Giesecke, A. Mitchell, H. C. Spencer, I. L. Hill, and J. T. Dygdon, Technical Drawing with Engineering Graphics, 15th ed., Upper Saddle River, NJ: Pearson, 2016.	
Websites	www.coursera.org/browse/physical-science-and-engineering	

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Engineering Workshops		**Module Delivery**
Module Type	Basic		○ Theory ○ Lecture • Lab ○ Tutorial ○ Practical ○ Seminar
Module Code	FMIT1205		
ECTS Credits	5		
SWL (Hr./Sem.)	150		
Module Level	1	**Semester of Delivery**	2
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1. To explain the lathe workshop: various measuring devices and how to use them. How to operate the lathe and use different tools and cutting tools. 2. To explain the welding and gas welding processes and familiarize yourself with the devices and equipment used. Point welding, familiarization with the devices and equipment used, and carrying out a simple exercise. 3. To understand the electrical transformers and their types: magnetic circuits, electrical circuits, measuring the wire diameters of the transformer.

	4. To understand the drawing of a circuit for establishing (the lamp ladder) two roads using a two-way switch—a practical application of the circuit. 5. To learn how to use the different measuring devices in the workshop (such as a multimeter, oscilloscope, etc.). 6. To learn how to use caustics, soldering irons, and various printed electronic circuits, identify how to install them, and install various electronic components on them. 7. To understand different types of coils and methods of checking them. Different types of capacitors differ in terms of the type of insulator used between the capacitor plates and the methods of checking them. The different types of resistors, in terms of the material they are made of and the capacity they can withstand. How to read the values of the resistors in different ways variable and special resistors. How to check them. 8. To understand the different types of switches used in electronic devices and their examination methods. Different types of fuses There are different types of resistors in terms of the material they are made of. Types of semiconductor diodes and transistors and finding the equivalents Semiconductor check, diode check, and transistor check. 9. To understand how to read the electronic map and how to track faults on the electronic map How to install and solder electronic components on the printed board Implementation of a simple electronic circuit on the printed board integrated electronic circuits: identify the types of these circuits.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	Upon completion of the course, students should be able to: 1. Recognize the methods of work on the lathe. 2. Cuts metals with a cutting and punching machine. 3. Install some simple structures. 4. Providing the student with manual experience and scientific proficiency in it. 5. Learn about electronic components. 6. Electronic components exchange is used to build and solder simple circuits. 7. Examine electronic circuits and their components. 8. Read the electronic map and learn how to track faults on the electronic map. 9. How to install and solder electronic components on the printed board. 10. Implementation of a simple electronic circuit on the printed board.

	11. Removing solder from circuits for the purpose of lifting and replacing. 12. How to design electronic circuits on the printed board. 13. Methods of soldering integrated circuits.
Indicative Contents **المحتويات الارشادية**	Indictive content includes the following: Lathe workshop, measuring devices, different tools, cutting tools, welding, gas welding, and point welding. [8 hr.]. Electrical transformers, magnetic circuit, and electrical circuits. [6 hr.]. Different measuring devices in the workshop (such as an ovometer, oscilloscope, power supply, etc.) [8 hr.]. Soldering iron and printed electronic circuits [4 hr.]. Coils, capacitors, and resistors [6 hr.]. Switches and fuses [4 hr.]. Semiconductor diode, and transistor [6 hr.]. Electronic map, faults on the electronic map, and design electronic circuits on the printed board [8 hr.]. Implemented a simple electronic circuit on the printed board [4 hr.]. Integrated electronic circuits [4 hr.].

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	Daily assessment, weekly assessment, quarterly assessment, objective question, general questions and practical tests.

Student's Workload (SWL) **الحمل الدراسي للطالب محسوباً ل 14 اسبوع**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	60	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطلاب اسبوعياً**	4
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	90	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب اسبوعياً**	6.4
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	150		

Module Evaluation تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Daily assessment**	1	10% (10)	3 and 8	LO 1, 2, 4, and 6
	Weekly assessment	1	10% (10)	9 and 13	LO 3 and 4
	Projects/ Lab.	1	10% (10)	Continuous	ALL
	Practical test	1	10% (10)	2	LO 7
Summative assessment	**Mid-term Exam**	2hr.	10% (10)	7	LO 1 – 7
	Final Exam	3hr.	50$ (5)	14	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي للمختبرات	
Week	**Covered Material**
Week 1	Lab 1: Lathe workshop: various measuring devices and how to use them. How to operate the lathe and use different tools and cutting tools.
Week 2	Lab 2: Welding and gas welding, and familiarization with the devices and equipment used. Point welding, familiarization with the devices and equipment used, and carrying out a simple exercise.
Week 3	Lab 3: Electrical transformers: their types of magnetic circuits; electrical circuits; opening transformers; taking information from the old transformer for primary and secondary coils measuring the wire diameters of the transformer; measuring the plastic coil template rewinding primary and secondary coils.
Week 4	Lab 4: Drawing a circuit for establishing two roads using a two-way switch is a practical application of the circuit. Identifying electrical collectors-their types, their use, thermal follow-ups, and time position.
Week 5	Lab 5: Training on making electrical installations (establishing inside tubes). Pipe cutting process: dental work, pipe bending, using drag springs.
Week 6	Lab 6: How to use the different measuring devices in the workshop (such as a multimeter, oscilloscope, etc.).
Week 7	Lab 7: How to use caustics: types of caustics used in the workshop; caustic welding training. Types of solder used: auxiliary materials for soldering; soldering some wires with each other and with some components. How to use a soldering iron and a soldering absorbent kit such as a solder sucker or solder remover, training on some electronic components, and lifting them from the printed plate. Various printed electronic circuits, identifying how to install them, and the installation of various electronic components on them.

Week 8	Lab 8: Coil types, methods of checking them, electrical transformers, types, checking, auto- transformer, and the difference between an autotransformer and an ordinary transformer. The different types of capacitors in terms of the type of insulator used between the capacitor plates, the effort that the capacitor bears, and reading the values of the capacitors using the different methods used in coding How to check the amplifiers and how to switch them. Making connections of the capacitors in parallel, series, and mixed on the printed board with the examination.
Week 9	Lab 9: The different types of switches used in electronic devices and their examination methods, the current that each switch bears, and the use of each type. Types of fuses used in electronic circuits, types and diameters of wires used and diameters of wires used in fuses, the current that each type bears, and how to repair fuses
Week 10	Lab 10: The different types of resistors, in terms of the material they are made of and the capacity they can withstand. How to read the values of the resistors in different ways Variable and special resistors (VDR-PYC-NTC) how to check them. Make a circuit to connect the resistors in series, make a circuit to connect the resistors in parallel, make a circuit to connect the resistors in series and parallel, and check the circuit.
Week 11	Lab 11: Types of semiconductor diodes and transistors and finding the equivalents. Semiconductor check, diode check, transistor check
Week 12	Lab 12: How to read the electronic map and track faults on the electronic map. Introduce the student to how to design electronic circuits on the printed board.
Week 13	Lab 13: How to install and solder electronic components on the printed board. Implementation of a simple electronic circuit on the printed board.
Week 14	Lab 14: Integrated electronic circuits: identify the types of these circuits. Cautery for soldering integrated circuits, the correct method of soldering integrated circuits, and removing solder from circuits for the purpose of lifting and replacing.
Week 15	**Preparatory week for the final Exam**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
Text		**Available in the Library?**
Required Texts	Encyclopedia of Electronic Components Volume 1 (Charles Platt). Encyclopedia of Electronic Components Volume 2 (Charles Platt). Encyclopedia of Electronic Components Volume 3 (Charles Platt). Encyclopedia of Electronic Components Volume 4 (Charles Platt). Encyclopedia of Electronic Components Volume 5 (Charles Platt).	No

Recommended Texts		
Websites	https://www.electricaltechnology.org/2013/03/how-to-remember-direction-of-pnp-and.html	

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	B - Very Good	جيد جدا	80 - 89	Above average with some errors
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	F – Fail	راسب	0 – 44	Considerable amount of work required
Note: The number of 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	English Language (Beginner)		**Module Delivery**
Module Type	Support		• Theory • Lecture ○ Lab ○ Tutorial ○ Practical ○ Seminar
Module Code	FMIT1106		
ECTS Credits	3		
SWL (Hr./Sem.)	90		
Module Level	1	**Semester of Delivery**	1
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	The module aims of English Language (Beginner) is designed to help learners at the beginner level develop their English language skills and achieve specific learning objectives. 1. To introduce beginner-level learners to the English language, focusing on building vocabulary and acquiring essential language structures. 2. To develop listening and speaking skills through interactive activities and engaging in basic conversational practice. 3. To enhance reading comprehension abilities by introducing simple texts and emphasizing vocabulary and sentence structures.

	4. To provide foundational writing skills, including sentence formation, paragraph writing, and completing basic forms. 5. To cultivate cultural awareness and equip learners with practical language skills for everyday situations, such as ordering food, shopping, and asking for directions.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	The module learning outcomes for the English Language (Beginner) module are as follows: 1. Develop basic proficiency in listening and understanding spoken English at a beginner level. 2. Demonstrate improved speaking skills by participating in simple conversations and expressing basic ideas and opinions. 3. Comprehend and interpret basic written texts, including short passages and simple dialogues. 4. Produce written texts using basic grammatical structures and vocabulary appropriate for beginner-level communication. 5. Increase vocabulary knowledge and usage to effectively communicate in everyday situations. 6. Develop an awareness of cultural aspects related to English-speaking countries and demonstrate cross-cultural understanding in language use. 7. Apply basic language skills in practical situations, such as greetings, introductions, making requests, and asking for and giving simple directions.
Indicative Contents **المحتويات الارشادية**	Unit 1: Hello! [3 hr.] Unit 2: Your world. [3 hr.] Unit 3: All about you. [3 hr.] Unit 4: Family and friends. [3 hr.] Unit 5: The way I live. [3 hr.] Unit 6: Every day [3 hr.] Unit 7: My favorites. [3 hr.] Unit 8: Where I live and times past. [3 hr.] Unit 9: We had a great time! I can do that! [3 hr.] Unit 10: Please and thank you, Here and now. [3 hr.] Unit 11: It's time to go! Getting to know you. [3 hr.] Unit 12: The way we live, it all went wrong. [3 hr.] Unit 13: Let's go shopping! [3 hr.] Unit 14: What do you want to do? [3 hr.] Unit 15: Tell me! What's it like? [3 hr.]

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	The learning and teaching strategies for the English Language (Beginner) module may include: 1. Interactive Language Practice: Engage learners in communicative activities that promote active participation and language practice.

	This can include pair work, group discussions, role-plays, and language games. 2. Authentic Materials: Incorporate authentic materials such as videos, audio recordings, and reading texts that reflect real-life language use. This helps learners develop their listening, speaking, reading, and writing skills in authentic contexts. 3. Task-Based Learning: Design tasks and projects that require learners to use the target language to accomplish specific goals or solve problems. This promotes meaningful language use and encourages critical thinking and problem-solving skills. 4. Visual Aids and Multimedia: Utilize visual aids, charts, diagrams, and multimedia resources to support language learning and comprehension. Visuals can enhance understanding, aid in vocabulary acquisition, and provide context for language use. 5. Error Correction and Feedback: Provide timely and constructive feedback on learners' language production to help them identify and correct errors. Encourage self-correction and peer correction to foster a supportive learning environment.

Student's Workload (SWL) الحمل الدراسي للطالب محسوباً ل 14 اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطلاب اسبوعياً	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	45	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب اسبوعياً	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	90		

Module Evaluation تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO 1, 2, 8 and 9
	Assignments	4	10% (10)	2 and 12	LO 3, 4, 6 and 7
	Report	1	10% (10)	14	LO 1 – 14
Summative assessment	**Mid-term Exam**	2hr.	20% (10)	7	LO 1 – 7
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	Hello

Week 2	Your world
Week 3	All about you
Week 4	Family and friends
Week 5	The way I live
Week 6	Every day
Week 7	My favourites
Week 8	Where I live Time past
Week 9	We had a great time. I can do that.
Week 10	Please and thank you. Here and now.
Week 11	It's time to go. Getting to know you
Week 12	The way we live. It all went wrong.
Week 13	Let's go shopping.
Week 14	What do you want to do?
Week 15	Tell me What it's like?
Week 16	**The preparatory week before the final exam.**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
Text		**Available in the Library?**
Required Texts	Soars, J., Soars, L. (2014). New Headway Plus: Beginner Student's Book. United Kingdom: Oxford University Press. Soars, J., Soars, L. (2006). New Headway Plus: Pre-intermediate. United Kingdom: Oxford University Press.	No
Recommended Texts	Audio CDs or Online Audio: Recordings of listening exercises, dialogues, and pronunciation practice.	
Websites		

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Fundamentals of Electrical Engineering		**Module Delivery**
Module Type	Core		• Theory ○ Lecture • Lab • Tutorial ○ Practical ○ Seminar
Module Code	FMIT1101		
ECTS Credits	7		
SWL (Hr./Sem.)	210		
Module Level	1	**Semester of Delivery**	1
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem-solving skills and an understanding of circuit theory through the application of techniques. 2. To understand voltage, current and power from a given circuit. 3. This course deals with the basic concept of electrical circuits. 4. This is the basic subject for all electrical and electronic circuits. 5. To understand Kirchhoff's current and voltage Laws problems. 6. To perform mesh and Nodal analysis. 7. To perform Loop current method, Superposition

Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Recognize how electricity works in electrical circuits. 2. List the various terms associated with electrical circuits. 3. Summarize what is meant by a basic electric circuit. 4. Discuss the reaction and involvement of atoms in electric circuits. 5. Describe electrical power, charge, and current. 6. Define Ohm's law. 7. Identify the basic circuit elements and their applications. 8. Discuss the operations of sinusoids and phasors in an electric circuit. 9. Discuss the various properties of resistors, capacitors, and inductors. 10. Explain the two Kirchhoff's laws used in circuit analysis. 11. Identify the capacitor and inductor phasor relationship with respect to voltage and current. 12. Discuss the 3-Phase system, Wye connection and Delta connection. 13. Identify the power in balance phase circuit. 14. Describe the Magnetism and Magnetic Circuits
Indicative Contents **المحتويات الارشادية**	Indicative content includes the following: *Part A – DC Circuit Theory I* DC circuits – Current and voltage definitions, Passive sign convention, and circuit elements. Combining resistive elements in series and parallel. Kirchhoff's laws and Ohm's laws. Conversion of delta – connected resistance into an equivalent Wye connection & Vic versa, Network reduction, Introduction to mesh and nodal analysis. [20 hr.] *Part B – DC-Circuit Theory II* Fundamentals of the power sources connected in parallel, Thevenin and Norton equivalent circuits, current and voltage division, Loop current method, Superposition method, maximum power transfer, Non-linear direct current circuit [20 hr.] *AC circuits I* Generation of alternating current, Sinusoidal current. The mean values of current and voltage. [15 hr.] *AC Circuits II* The effective values of current and voltage. The vector diagram, [10 hr.] The instantaneous power and mean power of A.C, relative and apparent power. [15 hr.] Revision problem classes [8 hr.] Magnetism and Magnetic Circuits [20 hr.] 3-Phase system, Wye connection, and Delta connection [15 hr.] The power in balance phase circuit. [10 hr] Revision problem classes [6 hr]

Learning and Teaching Strategies استراتيجيات التعليم والتعلم	
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 interesting sampling activities to the students.

Student's Workload (SWL) الحمل الدراسي للطالب محسوباً ل 14 اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	102	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطلاب اسبوعياً	7.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	108	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب اسبوعياً	7.7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	210		

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

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	Symbols and abbreviations, Units, Electric circuits, and their elements.
Week 2	The direct–current network (Kirchhoff's law & their use in network).
Week 3	Conversion of delta–connected resistance into an equivalent Wye connection & vice versa
Week 4	Power sources are connected in parallel.

Week 5	Circuit analysis methods: Node voltage method. Loop current method.
Week 6	Circuit analysis Theorems: (Superposition and Thevenin's Theorems).
Week 7	Circuit analysis Theorems: (Norton and Maximum power Theorems).
Week 8	Generation of alternating current, Sinusoidal current.
Week 9	The mean values of current and voltage.
Week 10	The effective values of current and voltage.
Week 11	The vector diagram.
Week 12	The instantaneous power and mean power of A.C, relative and apparent power.
Week 13	RL transient circuit.
Week 14	RC transient circuit.
Week 15	3-Phase system, the rotating magnetic field.
Week 16	**Preparatory week before the final exam.**

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الأسبوعي للمختبرات**	
Week	**Covered Material**
Week 1	Introduction to electrical elements, sources, and measuring devices related to electrical circuits.
Week 2	Verification of Ohm's Law.
Week 3	Verification of KVL and KCL.
Week 4	Verification of Thevenin's and Norton's theorems.
Week 5	Verification of the superposition theorem.
Week 6	Verification of the maximum power transfer theorem.
Week 7	Verification of the nodal voltage theorem.
Week 8	Verification of the mesh theorem
Week 9	Generating AC Voltages and measurement frequency, period, amplitude, and peak value.
Week 10	Calculations and verification of the impedance and current of RL.
Week 11	Calculations and verification of impedance and current RC.
Week 12	Calculations and verification of the impedance and current of RLC series circuits.
Week 13	Calculations of power in AC circuits.
Week 14	Calculations and verification of the impedance and current of RL, RC, and RLC parallel circuits.
Week 15	**A preparatory week before the final exam.**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
Text		**Available in the Library?**
Required Texts	Fundamentals of Electric Circuits, C.K. Alexander and M.N.O Sadiku, McGraw-Hill Education	No
Recommended Texts	Electric Circuits Seventh Edition, Schum's Outline Series	

Websites	

Grading Scheme مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Human Rights and Democracy		**Module Delivery**
Module Type	Support		• Theory • Lecture ○ Lab ○ Tutorial ○ Practical • Seminar
Module Code	FMIT1105		
ECTS Credits	5		
SWL (Hr./Sem.)	150		
Module Level	1	**Semester of Delivery**	2
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	The module aims to: 1. To provide students with a comprehensive understanding of the historical development of human rights and their significance in contemporary society. 2. To familiarize students with the concept and characteristics of human rights, enabling them to analyze and evaluate various human rights issues and challenges. 3. To explore the different generations of human rights, their evolution over time, and the implications for individuals and communities.

	4. To examine the role of human rights in ancient civilizations and Abrahamic religions, highlighting the contributions and influences of these historical contexts. 5. To investigate the international and regional recognition of human rights through the study of key charters, conventions, and declarations, enabling students to comprehend the global framework for human rights protection and promotion.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Demonstrate a comprehensive understanding of the fundamental concepts and techniques of differential calculus, including limits, derivatives, and their applications in engineering contexts. 2. Apply differentiation techniques proficiently to solve a wide range of engineering problems, such as optimization, motion analysis, and cost and revenue optimization. 3. Utilize transcendental functions effectively in engineering applications, demonstrating competence in working with exponential, logarithmic, and inverse trigonometric functions. 4. Apply the principles of differential equations to model and analyze engineering systems, including growth and decay phenomena and electrical circuits. 5. Employ critical thinking and analytical skills to tackle real-world engineering scenarios, utilizing differential calculus concepts to develop innovative solutions.
Indicative Contents **المحتويات الارشادية**	1. Historical Evolution of Human Rights: This content will focus on tracing the historical development of human rights, from ancient civilizations to the modern era. It will explore significant milestones and events that shaped the concept of human rights over time. [16 hr.] 2. Conceptual Foundations of Human Rights: This section will delve into the theoretical underpinnings and key concepts of human rights. It will cover topics such as universality, indivisibility, and the inherent dignity of every individual as the basis for human rights. [16 hr.] 3. Generations of Human Rights: This content will examine the different generations or categories of human rights, including civil and political rights, economic, social, and cultural rights, and solidarity rights. Students will explore the interdependence and interrelatedness of these rights. [16 hr.] 4. Human Rights in Practice: This section will analyze real-world examples and case studies to illustrate the application of human rights principles. It may include topics such as human rights violations, human rights advocacy, and the role of international and regional human rights mechanisms. 5. Emerging Issues in Human Rights: This content will explore contemporary challenges and emerging issues in the field of

	human rights. It may cover topics such as technology and human rights, environmental rights, rights of vulnerable groups, and the intersectionality of human rights with other fields such as gender, race, and socio-economic factors. [16 hr.]

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	The module will employ various learning and teaching strategies to enhance student's understanding and engagement. These strategies will include: 1. Lectures: Traditional lectures will be delivered by the instructor to provide foundational knowledge and concepts related to human rights. Lectures will offer comprehensive explanations, historical context, and theoretical frameworks. 2. Discussions and Debates: Interactive discussions and debates will be conducted to encourage critical thinking and active participation. Students will have the opportunity to express their opinions, engage in thoughtful debates, and analyze different perspectives on human rights issues. 3. Case Studies: Real-life case studies will be examined to illustrate the application of human rights principles in different contexts. Students will analyze and discuss these cases to develop problem-solving skills and gain a deeper understanding of the practical implications of human rights. 4. Group Projects: Collaborative group projects will be assigned to promote teamwork and research skills. Students will work together on specific human rights topics, conduct research, and present their findings to the class. This approach fosters teamwork, communication, and research abilities. 5. Guest Speakers: Inviting guest speakers, such as human rights activists, legal experts, or representatives from relevant organizations, will provide students with firsthand insights into the practical aspects of human rights work. Guest speakers can share their experiences, and expertise, and engage in interactive discussions with students. 6. Multimedia Resources: Utilizing multimedia resources such as videos, documentaries, and online platforms will enhance students' understanding and engagement with human rights topics. These resources can present real-life examples, testimonies, and visual representations to complement the theoretical aspects of the module. 7. Critical Analysis and Reflection: Assignments and assessments will encourage students to critically analyze human rights issues, reflect on their personal perspectives, and evaluate the impact of human rights violations and advancements. This will develop their analytical skills and foster a deeper understanding of the complex nature of human rights. 8. Independent Study: Students will be encouraged to engage in independent study, including reading relevant textbooks, scholarly

	articles, and reports. This will enable them to deepen their understanding of specific human rights topics, broaden their knowledge base, and develop self-directed learning skills. 9. Overall, these learning and teaching strategies aim to create an interactive and engaging learning environment, fostering critical thinking, active participation, and a deeper understanding of human rights principles and their practical application.

Student's Workload (SWL) **الحمل الدراسي للطالب محسوباً ل 14 اسبوع**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	73	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطلاب اسبوعياً**	4
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	77	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب اسبوعياً**	4
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	150		

Module Evaluation **تقييم المادة الدراسية**					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	15% (15)	5 and 10	LO 1, 2, and 3
	Assignments	2	15% (15)	2 and 12	LO 4 and 5
Summative assessment	**Mid-term Exam**	2hr.	20% (20)	7	LO 1 – 3
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) **المنهاج الأسبوعي النظري**	
Week	**Covered Material**
Week 1	*Introduction to Human Rights:* Historical development of human rights. Concept and characteristics of human rights. Importance and relevance of human rights.
Week 2	*Human Rights in Ancient Civilizations:* Examination of human rights in ancient societies. Contributions of ancient civilizations to human rights principles.
Week 3	*Human Rights in Abrahamic Religions:* Exploration of human rights in Judaism, Christianity, and Islam. Emphasis on the personality of prophet Muhammad (pbuh) and his contribution to human rights.
Week 4	*Human Rights in the Medieval and Modern Ages:* Evolution of human rights during the Middle Ages and modern era. Impact of enlightenment and renaissance on human rights.

Week 5	*Contemporary International Recognition of Human Rights:* Analysis of international human rights instruments and treaties. Focus on the universal declaration of human rights (1948).
Week 6	*Regional Recognition of Human Rights:* Examination of regional human rights systems and mechanisms. Exploration of non-governmental organizations' role in promoting human rights.
Week 7	*Human Rights in International Charters:* Study of key international charters and conventions. In-depth analysis of the universal declaration of human rights (1948).
Week 8	*Human Rights in National Constitutions (Iraqi Constitutions):* Examination of human rights provisions in Iraqi constitutions. Comparative analysis of constitutional safeguards for human rights.
Week 9	*Human Rights in Iraq after 2003 (Iraqi Constitution 2005):* Overview of human rights developments in Iraq post-2003. Analysis of the Iraqi constitution of 2005 and its impact on human rights.
Week 10	*Safeguards of Human Rights at Various Levels:* Exploration of international, regional, and national mechanisms for protecting human rights. Focus on genocide as a violation of human rights.
Week 11	*Financial and Administrative Corruption:* Understanding the phenomenon of financial and administrative corruption. Causes and consequences of corruption and efforts to combat it.
Week 12	*Right to Water and Sustainable Management:* Importance of the right to water as a human right. Strategies for sustainable water management and ensuring access to clean water.
Week 13	*Terrorism and its Impact on State and Society:* Examination of terrorism and its threat to human rights. Analysis of counter-terrorism measures and balancing human rights considerations.
Week 14	*Human Rights in Contemporary Issues:* Exploration of current human rights challenges and debates. Discussion on emerging human rights issues in the modern world.
Week 15	*Review and Conclusion:* Recap of key concepts and themes covered in the module. Discussion on the importance of upholding and promoting human rights in today's society.
Week 16	**Preparatory week before the final exam.**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
Text		**Available in the Library?**
Required Texts	حقوق الإنسان في العالم العربي: القضايا والتحديات، تأليف: علي حجازي وجمال شعت. الطبعة الثانية – العام ٢٠١٧	No

	مبادي حقوق الانسان: المفاهيم والقضايا الحديثة، تأليف: أحمد المجالي وغسان حمدان. الطبعة الاولى – العام ٢٠١٩	
Recommended Texts	حقوق الانسان والديموقراطية، تأليف مصطفى كامل محمود. الطبعة الأولى – العام ٢٠١٥ تاريخ حقوق الانسان بالعصور القديمة والوسطى، تأليف نبيل رزق، الطبعة الثالثة – العام ٢٠١٢ حقوق الانسان في العراق: الواقع والتحديات، تأليف سعد هلال عباس، الطبعة الأولى – العام ٢٠١٨	
Websites		

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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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Note: The number of 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	Integral Mathematics		**Module Delivery**
Module Type	Basic		• Theory ○ Lecture ○ Lab • Tutorial ○ Practical ○ Seminar
Module Code	FMIT1204		
ECTS Credits	5		
SWL (Hr./Sem.)	73		
Module Level	1	**Semester of Delivery**	2
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	Differential Mathematics	**Semester**	1
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem-solving skills and an understanding of Integral calculus through a broad range of Integration techniques. 2. To understand the theory and integration methods and apply them to various functions. 3. This is the basic subject for all engineering fields. 4. Demonstrate basic knowledge and understanding of a core of linear algebra and applied mathematics.

	5. Introduce students to the integration of trigonometric functions and their inverses.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Learn the basic ideas, tools and techniques of integration and will use them to solve problems from real-life applications. 2. Understand the definite and indefinite integrals and their applications in life. 3. Learn approximation techniques for integration. 4. Recognize how to apply integration methods to find area and volumes. 5. Learn how to find the length of a plane curve for a given function. 6. Discuss Matrices, Inverse of matrix and solution of homogeneous matrices. 7. List the various applications of Eigenvalues, Eigenvectors and Matrix diagonalization in Signals and systems.
Indicative Contents **المحتويات الارشادية**	Indicative content includes the following: 1. Theory of Integration, basics of definite and indefinite Integration, Integration of trigonometric and inverse functions. Integration of the exponential functions, and Integration of logarithmic functions. [21 hr.]. 2. Integration of Hyperbolic and inverse hyperbolic functions, methods of integration, numerical integration, applications of the definite integrals, and area of surface. [15 hr.]. 3. Volume of revolution, length of plane curve, and matrices with their Inverses. [15 hr.] 4. Matrix Diagonalization, solution of homogeneous matrices, eigenvalues, and eigenvectors. [15 hr.] 5. Revision problem classes [6 hr.]

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	The major approach to offer this module will be to promote student engagement in the exercises while enhancing and broadening their critical thinking abilities. Classes and interactive lessons will be used to achieve this.

Student's Workload (SWL) **الحمل الدراسي للطالب محسوباً ل 14 اسبوع**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	73	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطلاب اسبوعياً**	5
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	77	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب اسبوعياً**	5.5
Total SWL (h/sem)	150		

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)	5 and 10	LO 1, 2 and 3
	Assignments	2	10% (10)	2 and 12	LO 4, 5,6 and 7
	Tutorial	1	10% (10)	Continuous	All
Summative assessment	**Mid-term Exam**	2hr.	20% (20)	7	LO 1 – 3
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	Introduction – Theory of Integration.
Week 2	Methods of integration and basics of definite and indefinite integration.
Week 3	Integration of trigonometric and inverse functions.
Week 4	Integration of the exponential functions.
Week 5	Integration of logarithmic functions.
Week 6	Integration of hyperbolic and inverse hyperbolic functions.
Week 7	Mid-term Exam and numerical integration and applications of the definite integrals.
Week 8	Area of surface.
Week 9	The volume of revolution.
Week 10	Length of plane curve.
Week 11	Matrices and Inverse of matrix.
Week 12	Matrix diagonalization.
Week 13	Solution of homogeneous systems.
Week 14	Eigenvalues.
Week 15	**The preparatory week before the final exam.**

Learning and Teaching Resources مصادر التعلم والتدريس		
Text		**Available in the Library?**
Required Texts	Notes on Calculus II Integral Calculus Miguel A. Lerma	No
Recommended Texts	Thomas's Calculus 14th edition. Based on the original work by George B. Thomas, Jr.	

Websites	https://sites.math.northwestern.edu/~mlerma/courses/math214-2-02f/notes/c2-all.pdf http://dl.konkur.in/post/Book/Paye/Thomas-Calculus-14th-Edition-%5Bkonkur.in%5D.pdf	

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Mechanics		**Module Delivery**
Module Type	Basic		• Theory ○ Lecture ○ Lab • Tutorial ○ Practical ○ Seminar
Module Code	FMIT1203		
ECTS Credits	5		
SWL (Hr./Sem.)	150		
Module Level	1	**Semester of Delivery**	2
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1. To understand mechanics theory through the application of motion. 2. To determine the forces, stress and strain under force affected. 3. To determine the reaction forces under load applied. 4. To understand the friction basic mechanic applied 5. To understand Newton's laws in motion. 6. To understand and solve problems in forces analysis. 7. To determine the materials' properties and selection of materials.

Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	1. Identify the basic of forces result in applications of structures. 2. Identify the basic of Equilibrium force system. 3. Recognize how phenomena motion in mechanic's subject. 4. Summarize what is mean of forces reaction in beams. 5. Explain the analysis force in mechanics application. 6. Identify the basic of stress and strain in mechanics applications. 7. List the various parameters associated with mechanics theory. 8. Identify the basic of forces analysis and their applications. 9. Explain the Newton's laws used in mechanics application. 10. Identify the basic of friction forces in motion. 11. Identify the basic of welding and riveted joint in mechanics applications. 12. Explain the mechanical test to determine the mechanic properties. 13. Discuss the phenomena of moment of forces under different force moment.
Indicative Contents **المحتويات الارشادية**	Indicative content includes the following: *Part A:* 1- Introduction of forces, analysis of forces, result of forces, moment of forces and equilibrium force system. [18 hr.]. 2- Stress, strain, stress strain curve, simple strain and variable stress. [18 hr.]. 3- Beams and bending and analysis of structure. [15 hr.]. 4- Friction, coefficient of friction and mechanism of friction. [18hr.]. *Part B:* 1- Materials properties, material selective and stress strain diagram. [18 hr.]. 2- Mechanical tensile test, compression test, impact test and hardness test. [18 hr.]. 3- Mechanical joint, rivet joint and welding connection. [15 hr.]. 4- Beams and bending, analysis of structure, centroid and second moment of area. [18 hr.].

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	Strategies in mechanical subjects like: The main strategy that will be adopted in delivering this module is to encourage students to participation in the exercises, while at the same time refining and expanding their mechanical subject thinking development 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's Workload (SWL) الحمل الدراسي للطالب محسوباً ل 14 اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	45	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطلاب اسبوعياً	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	105	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب اسبوعياً	7.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO 1, 2, 10 and 11
	Assignments	2	10% (10)	2 and 12	LO 3, 4, 6 and 7
	Projects/ Lab.	1	10% (10)	Continuous	ALL
	Report	1	10% (10)	13	LO 5, 8 and 10
Summative assessment	**Mid-term Exam**	2hr.	10% (10)	7	LO 1 – 47
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	Introduction of forces
Week 2	Result of forces
Week 3	Moment of forces
Week 4	Equilibrium force system
Week 5	Stress and Strain
Week 6	Simple strain
Week 7	Variable stress
Week 8	Friction
Week 9	Materials properties
Week 10	Rivet and weld connection
Week 11	Beams and bending
Week 12	Analysis of structure
Week 13	Centroid

Week 14	Second moment of area
Week 15	General Problems
Week 16	**The preparatory week before the final exam.**

Learning and Teaching Resources **مصادر التعلم والتدريس**		
Text		**Available in the Library?**
Required Texts	Engineering Mechanic's Statics, 12th Edition by R. C. Nibbler, 1995.	No
Recommended Texts	Engineering Mechanic's Statics, 7th Edition by James, L. Meriam, L. G Kraige, 1995.	
Websites		

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Medical Chemistry		**Module Delivery**
Module Type	Basic		• Theory ○ Lecture • Lab ○ Tutorial • Practical ○ Seminar
Module Code	FMIT1202		
ECTS Credits	6		
SWL (Hr./Sem.)	180		
Module Level	1	**Semester of Delivery**	2
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1- To write and balance chemical equations which many calculations depend on. 2- To convert chemical formula to components composition percentage or to conclude empirical formula depending upon composition percentage. 3- To predict about the economic pathway for specific reactions to happen depending upon stoichiometric calculations of balanced chemical equations. 4- To Know how to prepare buffers with different ranges of pH using acids with a suitable dissociation constant acid. 5- To understand the effect of common ions on the equilibrium of reversible reactions.

	6- To focus on theoretical working principles of spectrophotometric instrumentations. 7- To discuss the importance of isotopes in diseases treatment and diagnosis.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	At ending of course, the student will: 1. Able to give chemical compounds their systematic names and to write their chemical formulae. 2. Know how to calculate concentrations of chemicals and to express them in various concentration terms. In addition to convert one term to another. 3. Calculate the compound composition percent according to chemical formula or know empirical formula depending on compounds composition percent. 4. Write chemical equations of different reactions and balance them and predict the limiting reactant in addition to the expected weight of products. 5. Estimate the reaction direction according to calculation of equilibrium constant of reversible reactions. 6. Know how to prepare buffers and how buffer work? 7. Understand importance and wide application of slightly soluble salts. 8. Perform the statistical treatment of analytical results and source of errors. 9. Recognize the importance of galvanic cells in current generation and role of electrolytic cells in metallic electroplating. 10. Consider zero, 1st and 2nd laws of thermodynamic processes, and evaluate thermodynamic functions of work, enthalpy, heat, internal energy and giving judgment of spontaneous process or not by entropy and Gibbs free energy. 11. List the components of photometric determination techniques, in addition to principals of their works. 12. Identify the photometric instrumentations such as FIS, FT-IR spectrophotometer, and mass spectrophotometry. 13. Emphasize the vital role of isotopes in diagnosis and diseases treatment.
Indicative Contents **المحتويات الارشادية**	1. Isotopes, Chemical formula and Units conversion. 2. Normality, Formality, Molarity, Molality, Mole fraction, Mill equivalent, ppm, ppb, mass percent and mass/vol percent. 3. Stoichiometry Chemical equilibrium dissociation constant pH. 4. Buffers common ion. 5. Solubility product constant. 6. Statistical treatment, average, range, standard deviation, variance, Absolute error and relative error. 7. Redox reactions, Electrochemistry, electrolytes, Nernst equation and cell potential.

	8. 1st law of thermodynamic, Reversible and irreversible process, Heat capacities, adiabatic process and Isothermal processes. 9. 2nd law of thermodynamic, entropy, Gibbs free energy. Photochemistry, electromagnetic spectrum, Beer Lambert law. IR Spectrophotometer, mass spectroscopy, FIS, FES. Potentiometer, conductive meter and pH-meter.

Learning and Teaching Strategies **استراتيجيات التعليم والتعلم**	
Strategies	homework assignments, written exams, quizzes, seminars, reports, practical tests and online tests.

Student's Workload (SWL) **الحمل الدراسي للطالب محسوباً ل 14 اسبوع**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	60	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطلاب اسبوعياً**	4
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	120	**Unstructured SWL (h/w)** **الحمل الدراسي غير المنتظم للطالب اسبوعياً**	8
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	180		

Module Evaluation **تقييم المادة الدراسية**					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	4	20% (10)	3, 5, 7 and 12	LO 1, 2, 5, 7, 10 and 12
	Assignments	4	10% (10)	2, 6, 8 and 13	LO 1 and 10
	Projects/ Lab.	1	5% (5)	6	LO 2 ad 5
	Report	5	5% (5)	3, 4, 5, 6 and 7	LO 1, 2, 3, 4, 5, 6 and 7
Summative assessment	**Mid-term Exam**	2hr.	10% (10)	10	LO 1 – 10
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) **المنهاج الأسبوعي النظري**	
Week	**Covered Material**
Week 1	Introduction, Units conversion, Isotopes, Chemical formula and chemical equation

Week 2	Methods of expressing analytical concentrations: Normality, Formality, Molarity, Molality, Mole fraction, Mill equivalent, ppm, ppb, wt. and vol. percentage ratio.
Week 3	Stoichiometry
Week 4	Chemical equilibrium
Week 5	Acid-base dissociation constant
Week 6	pH-scale, buffer solution
Week 7	Solubility of precipitations, common ion effect
Week 8	Errors & statistical treatment of analytical data sources of errors, types of errors, average mode, range, average derivation, standard deviation, relative standard deviation, variance, method of expressing accuracy, Absolute error and relative error.
Week 9	Redox reactions, balancing of redox equation
Week 10	Electrochemistry: electrochemical cells, types of electrodes, electrolytes, Nernst equation and cell potential.
Week 11	Thermodynamic, zero and first law of thermodynamic, reversible and irreversible expansion, heat capacities, adiabatic expansion and isothermal processes.
Week 12	Second law of thermodynamic: spontaneous processes, entropy and Gibbs free energy.
Week 13	Photochemistry (spectrophotometer analysis), Regions of electromagnetic spectrum, Absorption and emission of electromagnetic spectrum, Beer Lambert law and instrumentations components of spectrophotometer.
Week 14	IR Spectrophotometer, mass spectroscopy and flame ionization spectrophotometry
Week 15	Potentiometer, conductive meter, pH-meter and some other applications of chemical sensors

Delivery Plan (Weekly Lab. Syllabus) **المنهاج الأسبوعي للمختبرات**	
Week	**Covered Material**
Week 1	Principals of qualitative analysis.
Week 2	Qualitative analysis of cations of 1st and 2nd groups.
Week 3	Qualitative analysis of cations of 3rd and fifth groups.
Week 4	Introduction to quantitative (volumetric) analysis and types of standard substance in titration, principles and calculations of titration.
Week 5	How to prepare a solution of primary standard materials and to standardize secondary the standard substance of HCl, (acid-base titration).
Week 6	Standardization of secondary standard substance of NaOH and its application by determination of vinegar acidity.
Week 7	Determination of residual chloride in tape water by titration against silver nitrate (precipitation titration).

Learning and Teaching Resources **مصادر التعلم والتدريس**

Text		Available in the Library?
Required Texts	Essentials of general chemistry by Ebbing Gabbon Ragsdale. Chemical principles by Steven S. Zumdahl 4th Edition.	No
Recommended Texts		
Websites		

Grading Scheme **مخطط الدرجات**				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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	Medical Physics		**Module Delivery**
Module Type	Basic		• Theory ○ Lecture • Lab ○ Tutorial ○ Practical ○ Seminar
Module Code	FMIT1201		
ECTS Credits	6		
SWL (Hr./Sem.)	180		
Module Level	1	**Semester of Delivery**	2
Administering Department	MIET	**College**	TMC
Module Leader		**E-mail:**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**E-mail:**	
Scientific Committee Approval		**Version No.**	1

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite Module	None	**Semester**	
Co-Requisites Module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents اهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1- To recognize the influence of forces on the human body Identify how the skeleton works. 2- To show how pressure affects the body's organs Recognize the physical activity of the lungs and breathing. 3- To demonstrate the physics of the cardiovascular system and the urinary system. 4- To distinguish the basic principles using the applications of electricity and magnetism in medicine. 5- To shall be acquainted with respiratory, cardiovascular and cardiovascular equipment.

	6- To distinguishes the basic principles, using sound waves in medicine and the use of X-rays in the diagnosis and identification of diseases.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	Upon completion of the course, students should be able to: 1- Understand the difference between the forces. 2- Know the bone has at least six functions. What are the main components of the bone, and to study the methods of measurement the minerals quantity in the bone. 3- Know methods of diathermy. 4- Understand how Energy change in the body. 5- Know pressures inside the body parts and measure it. 6- Understand how to work the lungs and how the blood and lungs interact. 7- Know nervous system and the neuron. 8- Know the graphing devices of the body organs. 9- Know the applications of electricity and magnetism in medicine. 10- Know the application of sound in medicine, know sonar devices. 11- Know the application of light and laser in medicine. 12- Know Major components of the cardiovascular system. 13- Know physics of nuclear medicine. 14- Know the x- ray device.
Indicative Contents **المحتويات الارشادية**	1- Define the forces, frictional forces and dynamics. (4hr.). 2- Functions of the skeleton and Bone consists of quite different materials and how to measure mineral in the bones. (5 hr.) 3- Types of thermometers, heat therapy and cryogenics (4hr.) 4- Sphygmomanometer, blood pressure, bladder pressure and tonometer. (4hr.) 5- Function of lungs & breathing, breath rate, airways and Dalton's law of partial pressures. (2hr.) 6- The nervous system and the neuron, electrocardiogram, electro retinol gram (ERG) and the magneto cardiogram (MCG). (4hr.) 7- Magnetic signals from the heart magneto cardiogram. (2hr.) 8- Macro shock and micro shock. (2hr.) 9- General properties of sound, acoustic impedance, absorption, A-mode display and Doppler ultrasound. (4hr.) 10- Endoscope, cystoscopes and emissive IR photography. (4hr) 11- Laser, population inversion and x-ray. (4hr.) 12- Physics of the cardiovascular system (4 hr.)

Learning and Teaching Strategies

استراتيجيات التعليم والتعلم	
Strategies	Daily assessment, weekly assessment, quarterly assessment, objective questions, general questions and practical tests.

Student's Workload (SWL) الحمل الدراسي للطالب محسوباً ل 14 اسبوع			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	60	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطلاب اسبوعياً	4.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	120	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب اسبوعياً	8.5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	180		

Module Evaluation تقييم المادة الدراسية					
		Time / Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	4 and 11	LO 1, 3, 8 and 10
	Assignments	2	10% (10)	9 and 13	LO 8, 11 and 12
	Reports	1	10% (10)	Continuous	ALL
	Practical test	2	10% (10)	7 and 12	LO 1, 6, 7 and 11
Summative assessment	**Mid-term Exam**	2hr.	10% (10)	7	LO 1 – 7
	Final Exam	3hr.	50$ (5)	16	ALL
Total Assessment			100% (100)		

Delivery Plan (Weekly Syllabus) المنهاج الأسبوعي النظري	
Week	**Covered Material**
Week 1	Forces on and in the body.
Week 2	Physics of the skeleton.
Week 3	Heat & cold in medicine.
Week 4	Energy, work and power of the body.
Week 5	Pressure in body organs.
Week 6	Physics of the lungs and breathing.
Week 7	Mid Term Exam and Physics of cardiovascular system.
Week 8	Physics of urinary system.
Week 9	Electricity within the body.
Week 10	Sound in medicine and physics of hearing.
Week 11	Light in medicine and physics of vision.
Week 12	Diagnostic X-rays.
Week 13	Physics of nuclear medicine (radioisotopes in medicine).

Week 14	Physics of radiation therapy.
Week 15	Radiation protection.
Week 16	**The preparatory week before the final exam.**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الأسبوعي للمختبرات	
Week	**Covered Material**
Week 1	Lab 1: Introduction to laboratory tools.
Week 2	Lab 2: the simple pendulum.
Week 3	Lab 3: Hook's law.
Week 4	Lab 4: the blood pressure.
Week 5	Lab 5: the friction.
Week 6	Lab 6: the speed of sound.
Week 7	Lab 7: the laser.
Week 8	Lab 8: viscosity of liquids.
Week 9	Lab 9: The cylindrical body.
Week 10	Lab 10: The convex lens.

Learning and Teaching Resources مصادر التعلم والتدريس		
Text		**Available in the Library?**
Required Texts	Introductory Physics I Elementary Mechanics by Robert G. Brown	No
Websites	https://webhome.phy.duke.edu/~rgb/Class/intro_physics_1/intro_physics_1.pdf	

Grading Scheme مخطط الدرجات				
Group	**Grade**	**التقدير**	**Marks (%)**	**Definition**
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance
Group (50 - 100)	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 short comings
	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: The number of 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.