وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد

دليل وصف البرنامج الأكاديمي والمقرر الدراسي
قسم هندسة تقنيات الاجهزة الطبية

2025

المقدمة:

يُعد البرنامج التعليمي بمثابة حزمة منسقة ومنظمة من المقررات الدراسية التي تشتمل على إجراءات وخبرات تنظم بشكل مفردات دراسية الغرض الأساس منها بناء وصقل مهارات الخريجين مما يجعلهم مؤهلين لتلبية متطلبات سوق العمل يتم مراجعته وتقييمه سنوياً عبر إجراءات وبرامج التدقيق الداخلي أو الخارجي مثل برنامج الممتحن الخارجي.

يقدم وصف البرنامج الأكاديمي ملخص موجز للسمات الرئيسة للبرنامج ومقرراته مبيناً المهارات التي يتم العمل على اكسابها للطلبة مبنية على وفق اهداف البرنامج الأكاديمي وتتجلى أهمية هذا الوصف لكونه يمثل الحجر الأساس في الحصول على الاعتماد البرامجي ويشترك في كتابته الملاكات التدريسية بإشراف اللجان العلمية في الأقسام العلمية.

ويتضمن هذا الدليل بنسخته الثانية وصفاً للبرنامج الأكاديمي بعد تحديث مفردات وفقرات الدليل السابق في ضوء مستجدات وتطورات النظام التعليمي في العراق والذي تضمن وصف البرنامج الأكاديمي بشكلها التقليدي نظام (سنوي، فصلي) فضلاً عن اعتماد وصف البرنامج الأكاديمي المعمم بموجب كتاب دائرة الدراسات ت م3/2906 في 2023/5/3 فيما يخص البرامج التي تعتمد مسار بولونيا أساساً لعملها.

وفي هذا المجال لا يسعنا إلا أن نؤكد على أهمية كتابة وصف البرامج الاكاديمية والمقررات الدراسية لضمان حسن سير العملية التعليمية.

مفاهيم ومصطلحات:

<u>وصف البرنامج الأكاديمي</u>: يوفر وصف البرنامج الأكاديمي ايجازاً مقتضباً لرؤيته ورسالته وأهدافه متضمناً وصفاً دقيقاً لمخرجات التعلم المستهدفة على وفق استراتيجيات تعلم محددة.

<u>وصف المقرر</u>: يوفر إيجازاً مقتضياً لأهم خصائص المقرر ومخرجات التعلم المتوقعة من الطالب تحقيقها مبرهناً عما إذا كان قد حقق الاستفادة القصوى من فرص التعلم المتاحة. ويكون مشتق من وصف البرنامج.

<u>رؤية البرنامج</u>: صورة طموحة لمستقبل البرنامج الأكاديمي ليكون برنامجاً متطوراً وملهماً ومحفزاً وواقعياً وقابلاً للتطبيق.

<u>رسالة البرنامج</u>: توضح الأهداف والأنشطة اللازمة لتحقيقها بشكل موجز كما يحدد مسارات تطور البرنامج واتجاهاته.

<u>اهداف البرنامج</u>: هي عبارات تصف ما ينوي البرنامج الأكاديمي تحقيقه خلال فترة زمنية محددة وتكون قابلة للقياس والملاحظة.

<u>هيكلية المنهج</u>: كافة المقررات الدراسية / المواد الدراسية التي يتضمنها البرنامج الأكاديمي على وفق نظام التعلم المعتمد (فصلي، سنوي، مسار بولونيا) سواء كانت متطلب (وزارة، جامعة، كلية وقسم علمي) مع عدد الوحدات الدراسية.

<u>مخرجات التعلم</u>: مجموعة متوافقة من المعارف والمهارات والقيم التي اكتسبها الطالب بعد انتهاء البرنامج الأكاديمي بنجاح ويجب أن يُحدد مخرجات التعلم لكل مقرر بالشكل الذي يحقق اهداف البرنامج.

<u>استراتيجيات التعليم والتعلم</u>: بأنها الاستراتيجيات المستخدمة من قبل عضو هيئة التدريس لتطوير تعليم وتعلم الطالب وهي خطط يتم إتباعها للوصول إلى أهداف التعلم. أي تصف جميع الأنشطة الصفية واللاصفية لتحقيق نتائج التعلم للبرنامج.

نموذج وصف البرنامج الأكاديمي (2024–2025)

اسم الجامعة: كلية صدر العراق الجامعة

الكلية/ المعهد: كلية صدر العراق الجامعة

القسم العلمي: قسم هندسة تقنيات الاجهزة الطبية

اسم البرنامج الأكاديمي او المهني: هندسة تقنيات الاجهزة الطبية

اسم الشهادة النهائية: بكالوريوس في هندسة تقنيات الاجهزة الطبية

النظام الدراسي: الوحدات/ نظام بولونيا

تاريخ اعداد الوصف: 18/ 2 / 2025

تاريخ ملء الملف: 18 / 2 / 2025

التوقيع :

سم رئيس القسم: أ.د.عدنان عبد الامير عبد الرسول

التاريخ : 26/ 2 / 2025

التوقيع :أ.د. حسين عبد المنعم داوود

اسم المعاون العلمي:

التاريخ : 26/ 2 / 2025

ق الملف من قبل

شعبة ضمان الجودة والأداء الجامعي

اسم مدير شعبة ضمان الجودة والأداء الجامعي: م-م مسس شلاموخو

التاريخ ١١/٣/٥٢٠٢

التوقيع

كلية صدر العراق الجامعة الاهلية
عميد الكلية

مصادقة السيد العميد

3

1. رؤية البرنامج
اعداد مخرجات علمية هندسية وتقنية تمتلك من الخبرة ما يؤهلها مواكبة التقدم والتطور المستمر في مجال الاجهزة الطبية بما يزيد من كفاءة التعامل مع هذه الاجهزة.

2. رسالة البرنامج
توفير مستلزمات المادية والبشرية والعمل على تطوير كفاءة الخريجين بما يسهم في زيادة القدرةعلى المنافسة وتلبية حاجة سوق العمل.

3. اهداف البرنامج
1. تحقيق التطوير اللازم من الناحية التطبيقية والمعرفية لطلبة القسم بما يسهم في القابلية على التنافس في سوق العمل
2. تحقيق الجوده والاعتماد البرامجي والاكاديمي في مجال تقنيات الاجهزه الطبية .
3. العمل على ايجاد سبل التواصل بين القسم والاقسام المناظرة في الجامعات ذات التميز الاكاديمي بهدف اكساب الطلبة مهارات علمية مهنية .
4. توفير الطاقات التدريسة الكفؤه والمؤهلة بغرض رفع المستوى العلمي لطلبة القسم.
5. حث التدريسين على اجراء البحث العلمي مما يعزز مكانة القسم والكلية من الناحية العلمية .
6. اعداد برنامج تدريبي عملي بما يلبي الحاجة الاكاديمية التطبيقية للطلبة.

4. الاعتماد البرامجي
لا يوجد

5. المؤثرات الخارجية الأخرى
لا يوجد

6. هيكلية البرنامج

هيكل البرنامج	عدد المقررات	وحدة دراسية	النسبة المئوية	ملاحظات *
متطلبات المؤسسة	9	21	17.5%	المرحلة الاولى/المرحلة الثانية
متطلبات الكلية	لايوجد	لايوجد	-----	-----
متطلبات القسم	19	99	82.5%	المرحلة الاولى/المرحلة الثانية
التدريب الصيفي	1	لايوجد	لايوجد	المرحلة الثانية
أخرى	-------	----	---	-----

7. وصف البرنامج

السنة / المستوى	رمز المقرر أو المساق	اسم المقرر أو المساق	الساعات المعتمدة	
			نظري	عملي
المرحلة الاولى / الفصل الاول	MIET1101	مبادئ الهندسة الكهربائية (DC)	3	2
	MTU1004	اساسيات الحاسوب	2	2
	MIET1103	الرياضيات التفاضلية	5	0
	EETC102	الرسم الهندسي	0	4
	MTU1006	الديمقراطية وحقوق الانسان	2	0
	MTU1002	اللغة الانكليزية I	2	0
	MIET1107	الكيمياء الطبية	4	2
		المجموع	18	10
المرحلة الاولى / الفصل الثاني	MIET1201	مبادئ الهندسة الكهربائية (AC)	3	2
	MIET1202	الفيزياء الطبية	2	2
	MIET1203	الميكانيك	3	0
	MIET1204	الرياضيات التكاملية	5	0
	EETC101	الورش الهندسية	0	4
	MIET1206	برمجة الحاسوب وتطبيقاته I	1	2
	MTU1001	اللغة العربية I	2	0
		المجموع	16	10
المرحلة الثانية / الفصل الاول	MIET2101	الاجهزة الطبية المختبرية I	3	3
	MIET2102	دوائر الكترونية I	3	2
	MIET2103	مكائن كهربائية	3	2
	MIET2104	الرياضيات الهندسية	4	0
	MIET2105	علم التشريح وعلم وظائف الأعضاء	2	2
	MTU1007	جرائم نظام البعث في العراق	2	0
	MTU1005	تطبيقات الحاسوب	2	1
		المجموع	19	10

3	3	الاجهزة الطبية المختبرية II	MIET2201	
2	3	دوائر الكترونية II	MIET2202	
2	3	الإلكترونيات الرقمية	MIET2203	المرحلة الثانية / الفصل
2	2	اجهزة الكيمياء السريرية	MIET2204	الثاني
2	2	المحولات و المستشعرات الطبية الحيوية	MIET2205	
0	2	اللغة الانكليزية II	MTU1003	
0	2	اللغة العربية II	MTU1009	
11	11	المجموع		

8. مخرجات التعلم المتوقعة للبرنامج	
المعرفة	
اكتساب الطالب المعرفة في اساسيات التخصص العلمي	مخرجات التعلم 1 أ
التعرف على القوانين المعرفية للمواد الداسية الاساسية	مخرجات التعلم 2 أ
اكتساب الطالب خبرة في التقييم العلمي للمسائل الفيزيائية	مخرجات التعلم 3 أ
تعميق فهم الطالب لاساسيات المادة العلمية	مخرجات التعلم 4 أ
المهارات	
القدرة على ربط الجانب العملي مع الناحية نظرية	مخرجات التعلم 1 ب
القدرة على صيانة واصلاح الاجهزة الطبية المختلفة	مخرجات التعلم 2 ب
مهارة التحليل العلمي	مخرجات التعلم 3 ب
مهارة البحث العلمي	مخرجات التعلم 4 ب
القدرة على تطبيق التقنيات الحديثة في مجال الأجهزة الطبية	مخرجات التعلم 1 ج
تطوير وتصميم الاجهزة الطبية	مخرجات التعلم 2 ج
مهارة التفكير النقدي	مخرجات التعلم 3 ج
القدرة على تحليل وتقييم الاجهزة	مخرجات التعلم 4 ج
القيم د	
روح الفريق والعمل الجماعي والتواصل الفعال	مخرجات التعلم 1
القدرة على التكيف مع التطورات الحاصلة في بيئة العمل	مخرجات التعلم 2
التطوير والتحسين المستمروالتطلع لمواكبة كل ما هو حديث في الاختصاص	مخرجات التعلم 3
التفكير الابداعي	مخرجات التعلم 4

9. استراتيجيات التعليم والتعلم
القاء محاضرات- صفوف الكترونية- مختبرات علمية–الدروس والمناقشات التفاعلية–الندوات–الحلقات الدراسية-ورش العمل– التعليم التعاوني– العصف الذهني.

	10. طرائق التقييم
تقارير وبحوث علمية– اختبارات قصيرة–الواجبات–تقييم عملي–اختبارت نهائية–اختبارت فصلية–اسئلة فكرية.	

	11. الهيئة التدريسية

أعضاء هيئة التدريس						
اعداد الهيئة التدريسية		المتطلبات/المهارات الخاصة (ان وجدت)	التخصص		الرتبة العلمية	
محاضر	ملاك		خاص	عام		
	✓		هندسة توليد الطاقة	هندسة ميكانيك	أ.د. عدنان عبد الامير عبد الرسول	
	✓		العلاقات الدولية	العلوم السياسية	أ.م.د.عبد العزيز مهدي مكي	
	✓		هندسة الكترونيك	هندسة كهربائية	م.د. احمد سرحان محمد	
	✓		الكيمياء	الكيمياء	م.د.علي جاسم حمود	
✓			هندسة اتصالات	هندسة كهرباء	م.د. علاء حسين احمد	
✓			صحة عامة البيطرية	علوم في الطب البيطري	م.د. مها طارق محمد	
	✓		فيزياءطبية	فيزياء	م. جاسم حافظ محمد	
	✓		الكيمياء الحياتية	الكيمياء	م.م. فاطمه علي عيسى	
	✓		علم اجتماع	علم اجتماع	م.م. انصاف جاسم علوان	
	✓		فيزياء طبية	فيزياء طبية	م.م. معصومة حسين احمد	
	✓		علم الاجنة	علوم حياة	م.م. واثق قتيبة شاكر	
✓			قدرة ومكائن كهربائية	هندسة كهرباء	م.م علي قاسم عبد الرسول	
✓			اللغة الانكليزية	اللغة الانكليزية	م.م. حارث عبدالله محمود	

	✓			آدب	لغة عربية	م.م. معن مزعل شهاب
		✓			هندسة كهرباء	المهندس صبار عطيوي حداد

التطوير المهني
توجيه أعضاء هيئة التدريس الجدد

وضع برامج لمنتسبي القسم ويتضمن:

1. محاضرات وندوات توجيهية وارشادية في الأنشطة والحقوق وواجبات عضو هيئة التدريسوفي البحث العلمي واهميته والمصادر المعرفية والتعليمية.

2. اعداد الدورات التدريبية وورش العمل الحضورية والالكترونية الهادفة لتنمية مهارات التدريس الجامعي وتشمل:بناء المقرر الدراسي ومهارات التدريس الجامعي الفعال ومهارات تقويم الطلاب والتعليم الإلكتروني والتعلم عن بعد.

التطوير المهني لأعضاء هيئة التدريس

1. التشجيع على المشاركة في المؤتمرات العلمية

2. توفير فرص التدريب والتطوير المهني من خلال المشاركة بدورات تدريبية داخلية وخارجية

3. المشاركة في ورش التطوير المقامة من قبل الوزارة التي تخص اعداد البحوث العلمية والنشر في المجلات العالمية المعتمدة ذات التأثير

4. استخدام التّكنولوجيا في التعليم كمنصّات التّعلّم عن بُعد و لتّطبيقات والمواقع التعليمية.

5. تنمية مهارات التدريس واستخدام استراتيجيات التدريس الفعّال.

12. معيار القبول

- القبول المركزي من قبل و ازرة التعليم العالي (خريجي الدراسة الإعدادية بفروعها العلمي – الاحيائي – التطبيقي وخريجي إعدادية الصناعة).

13. أهم مصادر المعلومات عن البرنامج

- الجامعات الحكومية العراقية والعالمية ذات التصنيف المتقدم.

- مكتبة الكلية والمكتبة الالكترونية.

- البحوث العلمية الحديثة.

14.	خطة تطوير البرنامج
- التوأمة مع الجامعات العراقية الحكومية	
- امتحان الرصانة والامتحان المشترك والامتحانات التقويمية الوزارية.	

السنة / المستوى	اسم المقرر	أساسي أم اختياري	1أ	2أ	3أ	4أ	ب1	ب2	ب3	ب4	ج1	ج2	ج3	ج4	د1	د2	د3	د4
	مخرجات التعلم المطلوبة من البرنامج																	
المرحلة الاولى																		
فصلي	مبادئ الهندسة الكهربائية (DC)	أساسي	√	√	√	√	√	√	√	√	√	√			√	√		
فصلي	اساسيات الحاسوب	أساسي	√			√	√	√	√	√				√	√	√		√
فصلي	الرياضيات التفاضلية	أساسي	√	√	√	√			√	√			√		√	√		
فصلي	الرسم الهندسي	أساسي	√	√	√					√		√			√	√		√
فصلي	الديمقراطية وحقوق الانسان	أساسي	√			√				√			√		√	√		
فصلي	اللغة الانكليزية I	أساسي	√	√	√	√				√					√	√		
فصلي	الكيمياء الطبية	أساسي	√	√	√	√	√	√	√	√	√	√	√	√	√	√		
فصلي	مبادئ الهندسة الكهربائية (AC)	أساسي	√	√	√	√	√	√	√	√	√	√				√		
فصلي	الفيزياء الطبية	أساسي	√	√	√	√	√	√	√	√					√	√		
فصلي	الميكانيك	أساسي	√		√	√				√		√			√	√		
فصلي	الرياضيات التكاملية	أساسي	√		√	√				√			√		√	√		
فصلي	الورش الهندسية	أساسي	√	√	√	√	√	√	√	√	√	√	√	√	√	√		
فصلي	برمجة الحاسوب وتطبيقاته I	أساسي	√	√	√	√		√		√	√		√		√	√	√	
فصلي	اللغة العربية I	أساسي	√			√				√			√			√		
المرحلة الثانية																		
فصلي	الاجهزة الطبية المختبرية I	أساسي	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√
فصلي	دوائر الكترونية I	أساسي	√	√	√	√	√	√	√	√	√	√			√	√		
فصلي	مكائن كهربائية	أساسي	√	√	√	√	√	√	√	√	√	√		√	√	√		
فصلي	الرياضيات الهندسية	أساسي	√	√	√	√		√	√	√			√		√	√		

																		النوع	اسم المقرر	
			√	√				√			√	√	√	√		√		أساسي	علم التشريح وعلم وظائف الأعضاء	فصلي
			√	√		√			√					√		√		أساسي	جرائم نظام البعث في العراق	فصلي
		√	√	√		√			√		√	√	√			√		أساسي	تطبيقات الحاسوب	فصلي
√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		أساسي	الاجهزة الطبية المختبرية II	فصلي
		√	√		√	√	√	√	√		√	√	√	√		√		أساسي	دوائر الكترونية II	فصلي
		√	√		√	√	√	√	√		√		√	√		√		أساسي	الإلكترونيات الرقمية	فصلي
√	√	√	√	√	√	√	√	√	√	√	√	√	√	√		√		أساسي	اجهزة الكيمياء السريرية	
√	√	√		√		√	√			√	√	√	√		√	√		أساسي	المحولات و المستشعرات الطبية الحيوية	فصلي
		√	√		√			√			√			√		√		أساسي	اللغة الانكليزية II	فصلي
		√	√		√			√			√			√		√		أساسي	اللغة العربية II	فصلي

❖ يرجى وضع اشارة في المربعات المقابلة لمخرجات التعلم الفردية من البرنامج الخاضعة للتقييم

❖ **الكورس الأول :**

1. مبادئ الهندسة الكهربائية (DC)

2. اساسيات الحاسوب

3. الرياضيات التفاضلية

4. الرسم الهندسي

5. الديمقراطية وحقوق الانسان

6. اللغة الانكليزية I

7. الكيمياء الطبية

❖ **الكورس الثاني :**

1. مبادئ الهندسة الكهربائية (AC)

2. الفيزياء الطبية

3. الميكانيك

4. الرياضيات التكاملية

5. الورش الهندسية

6. برمجة الحاسوب وتطبيقاته I

7. اللغة العربية I

وصف المقرر للمرحلة الاولى

الكورس الأول

نموذج وصف المقرر الدراسي

مبادئ الهندسة الكهربائية (DC)

<table>
<tr><td colspan="4" align="center">Module Information</td></tr>
<tr><td>Module Title</td><td>Fundamentals of Electrical Engineering (DC)</td><td colspan="2">Module Delivery</td></tr>
<tr><td>Module Type</td><td align="center">Core</td><td colspan="2" rowspan="4">☒ Theory
☐ Lecture
☒ Lab
☒ Tutorial
☐ Practical
☐ Seminar</td></tr>
<tr><td>Module Code</td><td align="center">MIET1101</td></tr>
<tr><td>ECTS Credits</td><td align="center">6</td></tr>
<tr><td>SWL (hr/sem)</td><td align="center">150</td></tr>
<tr><td>Module Level</td><td align="center">UGI</td><td>Semester of Delivery</td><td align="center">1</td></tr>
<tr><td>Administering Department</td><td align="center">MIET</td><td>College</td><td align="center">S.I.U.C</td></tr>
<tr><td>Module Leader</td><td></td><td>e-mail</td><td></td></tr>
<tr><td>Module Leader's Acad. Title</td><td></td><td>Module Leader's Qualification</td><td></td></tr>
<tr><td>Module Tutor</td><td align="center">م.د. علاء حسين احمد</td><td>e-mail</td><td></td></tr>
<tr><td>Peer Reviewer Name</td><td></td><td>e-mail</td><td></td></tr>
<tr><td>Scientific Committee Approval Date</td><td align="center">8/11/2023</td><td>Version Number</td><td>1.0</td></tr>
</table>

<table>
<tr><td colspan="4" align="center">Relation with other Modules
العلاقة مع المواد الدراسية الاخرى</td></tr>
<tr><td>Prerequisite module</td><td align="center">None</td><td>Semester</td><td></td></tr>
<tr><td>Co-requisites module</td><td align="center">None</td><td>Semester</td><td></td></tr>
</table>

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims أهداف المادة الدراسية	1. To develop knowledge on standard units of electricity and understanding of DC circuit theorems. 2. To understand voltage, current and power of DC circuits. 3. To learn the basic concept of DC electrical circuits connections. 4. To explain the DC electrical circuits. 5. To understand basic laws of electricity. 6. To perform DC-network theorem. 7. To perform DC-circuit analysis methods. 8. To understand independent sources and dependent sources.
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. Describe electrical power, voltage, and current. 5. Define Ohm's law and define the relation between voltage, resistance, and current. 6. Identify the basic circuit elements and their applications. 7. Discuss the operations of power and energy in electric circuit. 8. Discuss the various properties of resistors connections. 9. Explain the two Kirchhoff's laws used in circuit analysis. 10. Identify the implementation of resistor circuit's connection. 11earn measurements of voltage ad current. Practical Identification of resistance based on color code.

	Indicative content includes the following.
Indicative Contents المحتويات الارشادية	DC circuits – Current and voltage definitions, and circuit elements, Combining resistive elements in series and parallel. Kirchhoff's laws and Ohm's law, Network reduction, Introduction to mesh and nodal analysis. [20 hrs] Conversion of delta – connected resistance into an equivalent Wye connection & Vic versa. [10 hrs] Fundamentals of the Power sources connected in parallel, Thevenin and Norton equivalent circuits, current and voltage division, Loop current method, Super position method ,maximum power transfer, Non- linear direct current circuit [20 hrs] Independent sources and dependent sources [10 hrs] source transformation [5 hrs] Revision problem classes [5 hrs]

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 sampling activities that are interesting to the students.

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	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, 10	LO #1, 2, LO# 10 and 11
	Online Assignments	2	10% (10)	2, 12	LO # 3, 4, LO# 6, 7
	Projects	1	6% (6)	Continuous	LO# 1-12
	lab	10	10% (10)	Continuous	LO# 1-12
	Report	1	4% (4)	13	LO # 5, 8, 9, 12
Summative assessment	**Midterm Exam**	3 hr	10% (10)	7	LO # 1-7
	Final Exam	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Symbols and abbreviations, Units, Electric circuits, and its elements.
Week 2	The direct–current network (Ohm's law, Kirchhoff's voltage and current laws & their use in network).
Week 3	Series elements and Voltage Division
Week 4	Parallel elements and Current Division
Week 5	Power sources are connected in parallel,
Week 6	Circuit analysis methods: 1- Node voltage method. 2- Loop current method.
Week 7	
Week 8	Mid-term exam
Week 9	Conversion of delta–connected resistance into an equivalent Wye connection & Vic versa

Weeks 10-13	Circuit analysis Theorems: 1. Superposition 2. Thevenin 3. Norton 4. Maximum power
Weeks 14-15	Independent sources and Dependent sources, source transformation and preparation for final exam

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to electrical elements, sources, and measuring devices related to electrical circuits.
Week 2	Resistance measurement based on AVO meter readings and color code identification.
Week 3	Verification of Ohm's Law
Weeks 4-5	Verification of KVL and KCL
Weeks 6-7	Verification of Thevenin's and Norton's theorems
Weeks 8-9	Verification of the superposition theorem
Week 10	Verification of the maximum power transfer theorem
Week 11	Verification of the Nodal Voltage Theorem
Week 12	Verification of the Mesh Theorem
Weeks 13-14	practical implementation of Independent sources and Dependent sources
Week 15	Preparation for 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	Yes

Recommended Texts	Electric Circuits Seventh Edition وSchaum's Outline Series	No
Websites	https://www.youtube.com/watch?v=SfKw8bHk7-o (for practical implementation of Independent sources and Dependent sources, **Weeks 13-14**)	

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

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

اساسيات الحاسوب

Module Information
معلومات المادة الدراسية

Module Title	Computer Principles	Module Delivery
Module Type	Basic	☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	MTU1004	
ECTS Credits	3	
SWL (hr/sem)	57	

Module Level	UGI	Semester of Delivery	1
Administering Department	MIET	College	S.I.U.C
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	.
Module Tutor	م.م.معصومة حين احمد	e-mail	E-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	8/11/2023	Version Number	1.0

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
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية

Module Objectives أهداف المادة الدراسية	1. To understand operating system, be familiar with its types. 2. To be familiar with the desktop. 3. To be familiar and manage files and folders. 4. To be familiar with the basic concepts of hardware components of the computer. 5. To be able to use the basic functions in control panel. 6. To recognize software types. 7. To be able to understand the basic similarities and differences among (MS Office) applications. 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. 14. To be introduced to AI tools.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate understanding of operating systems, including their types. 2. Navigate and utilize the desktop effectively. 3. Manage files and folders proficiently. 4. Identify 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. 14. Basic Use of AI tools.

	Indicative content includes the following.
Indicative Contents المحتويات الارشادية	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. (3 hrs) 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. Exploring the taskbar. (6 hrs) Files and Folders: Understanding the typical window and file management. Introduction to the Recycle Bin. Understanding file names and common extensions. (6 hrs) Computer Hardware: Identifying various computer types . Exploring components inside a computer, such as the microprocessor, system memory, and storage systems. Recognizing input/output devices and their interaction. (6 hrs) Familiarity with the control panel and its categories and usage. (6 hrs) Software Overview: Understanding software requirements and their implications for hardware. Introduction to different types of application software + Dealing with viruses and malwares (2 hrs) 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. (3 hrs) MS Office Basics: Definitions and key concepts in MS Office applications and Usage. (9 hrs) Google apps and Gmail (3hrs) 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. And basic understanding and usage for AI tools (3 hrs)

Learning and Teaching Strategies استراتيجيات التعليم والتعلم	
Strategies	Incorporate a mix of theoretical study, hands-on practice, experimentation, and realworld 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 Workload (SWL)

الحمل الدراسي للطالب محسوبا ل14 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	66	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	6
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	75		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5 and 9	LO #1, #2, #3 and #6, #7
	Assignments	2	10% (10)	4 and 6	LO #4 ,#8, #12 and #5, #12
	Projects / Lab.	5	15% (15)	10,11,12, 13 and 14,	LO #7, #12, #13 and #8 , #12, #13 and #9, #12, #13 and #10, #12, #13 and #11, #12, #13
	Report	1	5% (5)	6	LO #12, #7, #8 and #12
Summative assessment	**Midterm Exam**	3hr	10% (10)	8	LO #1 - #6
	Final Exam	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to operating system and its types, the differences between operating systems and software applications; Common operating system features.
Week 2	Looking and navigation of the desktop; start button components ; Understanding Taskbar ,Software and hardware relationship.

Week 3	Software updates+, Files and folders looking at typical window.+ Understanding files and folders+ Libraries
Week 4	understanding Recycle bin; understanding file name and common extensions. View options + Computer hardware identifying computers
Week 5	Looking inside a computer (microprocessor, system memory, storage systems)+ recognizing input/ output devices + understanding how it works together.
Week 6	Understanding control panel categories + Understanding Ease of access + Understanding User account rights
Week 7	What is software , application software + Avoiding and dealing Viruses and malwares
Week 8	**Mid Term**
Week 9	MS office common features and differences
Week 10	Basic concepts and Usage of MS Word + Basic concepts and Usage of MS Power Point
Week 11	Basic concepts and Usage of MS Excell + Basic concepts and Usage of MS Outlook
Week 12	Introduction to Google apps
Week 13	Digital citizenship identifying ethical issues; protecting your data or computer
Week 14	Basic understanding and usage for AI tools
Week 15	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Getting to know computer hardware + turn on and shut down options +looking at the desktop + using mouse (Menu, pointing, selecting, dragging, scrolling and execution)+ using start button
Week 2	Lab 2: Create a folder (and file) , Rename, Copy, Cut, find, shortcut +Recycle bin ; using task bar
Week 3	Lab 3: looking at a typical window +control buttons + move, resize a window+ view options+ select files + file options +using taskbar.

Week 4	Lab 4: Install, open, close, and(control panel- Programs) uninstall applications(internet and other sources); Control Panel (power options), Control Panel (add a device or printer), Control Panel (Project)
Week 5	Lab 5: Personalization (background and color) +(User Account (create a standard account, change password , picture and name) Control Panel- Clock and region (change date, time , and region) + Ease of Access (Narrator, Magnifier, on screen keyboard)).
Week 6	Lab 6: MS Office (word, Excel, Power point, outlook) Starting each program and identify the main screen in details as title bar, main ribbons, etc.
Week 7	Lab 7: MS Word (Home Tab, Insert Tab, Layout Tab, View Tab + Watermark, Page boarder and Page color).
Week 8	Lab 8:**Mid Term**
Week 9	Lab 9: MS Excel (Home Tab, Insert, Page layout, Formula, Data).
Week 10	Lab 10: MS Power Point (Home Tab, Insert, Design, Transition, Animation).
Week 11	Lab 11: MS outlook (Home Tab, send and receive) + Calendar
Week 12	Lab 12: **Google apps Vs MS office.**
Week 13	Lab 13: Creating Gmail+ basic e-mail functions+ using google class.Using internet (Google scholar + fining courses and materials, Khan academy and finding resources).
Week 14	Lab 14: Using AI tools

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 https://support.microsoft.com/en-us/training https://support.google.com/a/users https://edu.gcfglobal.org/en/topics/googleapps/# https://edu.gcfglobal.org/en/subjects/office/# https://chat.openai.com	

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

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

الرياضيات التفاضلية

Module Information
معلومات المادة الدراسية

Module Title	Differential Mathematics	**Module Delivery**	
Module Type	Support	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	MIET1103		
ECTS Credits	5		
SWL (hr/sem)	125		

Module Level	UGI	**Semester of Delivery**	1
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م. جاسم حافظ محمد	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

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	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives أهداف المادة الدراسية	1. To develop problem solving skills and understanding of Differential calculus through a broad range of Differentiation techniques. 2. To understand limits and theory of derivative and apply it on 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. Use the limit laws to evaluate the limit of a function. 3. Discuss continuity at a point and continuity over an interval. 4. Understand transcendental functions and how a function and its inverse are related. 5. 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 center and radius, and an ellipse and its foci. 6. Learn how to convert rectangular coordinates to polar coordinates and vice versa, as well as plot points using polar coordinates. 7. Differentiate algebraic and transcendental functions Midterm 8. Discuss Chain rules and applications of the derivatives. 9. Define determinants and understand their relation to matrices · Also explain the methodology for finding a determinant. 10. Learn how to solve Linear equations by Cramer's rule.

	Indicative content includes the following.
Indicative Contents المحتويات الارشادية	1. Limits and Continuity, Trigonometric functions, and their inverses. Hyperbolic and inverse hyperbolic functions, Exponential function and logarithmic function. Plane analytical geometry, parabola & ellipse, hyperbola. [25 hrs] 2. Polar coordinates, Theory and rules of derivatives, Implicit Differentiation and Chain rules, Derivatives of trigonometric functions and their inverses. Derivatives of Transcendental functions and their inverses. [33 hrs] 3. Properties of determinants, Solution of Linear equations by Cramer's rule. [10 hrs] 4. Revision problem classes [5 hrs]

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.

Student Workload (SWL)
الحمل الدراسي للطالب محسوبا ل15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	6 and 10	LO #2, #7, #9, and #10
	Online assignments	2	10% (10)	4 and 12	LO #1 - #5 and #6 - #10
	Report	1	10% (10)	14	LO #1 - #8
	OnSite assignments	2	10% (10)	2 and 5	LO #1 - #10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #7
	Final Exam	3hr	50% (50)	16	LO #1 - #10
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
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
Week 8	Theory and rules of derivatives
Week 9	Implicit Differentiation and Chain rules.
Week 10	Derivatives of trigonometric functions 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. + Preparatory week before the final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Engineering Mathematics I (**pdf**)	No
Recommended Texts	Thomas ' Calculus (**pdf**) Fouteenth edition Based on the original work by GEORGE B. THOMAS, JR.	No
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 Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب(قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

نموذج وصف المقرر الدراسي

الرسم الهندسي

Module Information		
معلومات المادة الدراسية		
Module Title	**Engineering Drawing**	**Module Delivery**
Module Type	**Support**	☐ Theory
Module Code	**EETC102**	☐ Lecture
		☒ Lab
ECTS Credits	**5**	☐ Tutorial
		☐ Practical
SWL (hr/sem)	**125**	☐ Seminar
Module Level	UGI	**Semester of Delivery**	1
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	أ.د. عدنان عبد الامير عبد الرسول	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

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	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	

Module Aims أهداف المادة الدراسية	The module aims for the Basics of Engineering Drawing courseware is to teach the student the basic commands necessary for professional 2D drawing, design, and drafting using AutoCAD. Upon completion of the course, the student will: • Become familiar with the AutoCAD user interface. • Understand the fundamental concepts and features of AutoCAD. • Use the precision drafting tools in AutoCAD to develop accurate technical drawings. • Present drawings in a detailed and visually impressive manner. • Develop a level of comfort and confidence with AutoCAD through hands-on experience.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon completion of the course, students should be able to: 1. The student will describe key terms and concepts associated with drafting and the drafting profession. • Identifying software drafting tools (e.g. AutoCAD, Micro station, SolidWorks, and Google Sketch Up). 2. The student will identify elements of the AutoCAD software interface. □ Starting the AutoCAD program from the start menu. • Using existing AutoCAD templates to create drawing documents. • Identifying file extensions (such as.dwg, dxf, dwt, and .bak) and file locations. • Creating, formatting, editing and saving an Auto CAD drawing. 3. The student will demonstrate an understanding of the skills necessary to create basic 2D AutoCAD drawings. • Drawing lines, curves, circles, ellipses, rectangles, polygons, and donuts. • Modifying a drawing using the Erase tool. • Identifying and using the various types of Object Snaps and Auto tracking. • Using the offset tool, drawing points, construction lines and rays. 4. The student will demonstrate the ability to modify an AutoCAD drawing. • Creating and managing multiple layers that define line color, line width, line type, etc. • Identifying and using object editing tools (such as fillet, chamfer, break, join, trim, extend, lengthen, and scale). • Arranging and patterning objects with move, copy, mirror,

	rotate, align, and array.
	5. The student will demonstrate an understanding How to assign: Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space.
	6. The student will demonstrate an understanding Dealing with: Text, Style, M text, Scale text, Spell,
	7. The student will demonstrate the Object viewing.
	• Zooming techniques 3
	• Panning techniques
	8. 8. The student will demonstrate the ability to output drawings in AutoCAD
	9. Drawing 3d modeling.
	10. Drawing the Exercises.
Indicative Contents المحتويات الارشادية	ndicative content includes the following. **Basic Drawing & Editing Commands** • Drawing Lines • Erasing Objects • Drawing Lines with Polar Tracking • Drawing Rectangles • Drawing Circles • Undo and Redo Actions [02 hrs.] **Making Changes in Your Drawing** • Selecting Objects for Editing • Moving Objects • Copying Objects • Rotating Objects • Scaling Objects • Mirroring Objects • Editing with Grips [4 hrs.] **Display Control** • Zoom • Pan • Redraw • Clean Screen. [4 hrs.] **Adding Dimensions** •Dimensioning Concepts •Adding Linear Dimensions •Adding Radial and Angular Dimensions •Editing Dimensions [4 hrs.]

	Hatching •Hatching •Editing Hatches [4hrs] **Printing Your Drawing** •Printing Layouts ☐ Print and Plot Settings [4 hrs.] **3D MODELLING, Convert** 2D to 3D, Solid Editing [19 hrs.]

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 provide ample opportunities for hands-on practice. Assign exercises and projects that require students to create different types of drawings using AutoCAD. Encourage them to explore and experiment with various tools and commands. 4. 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. 5. 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. 6. 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.

7. 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.

8. 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.

9. 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.

10. 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 Workload (SWL)			
الحمل الدراسي للطالب محسوبا ل15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** **الحمل الدراسي المنتظم للطالب أسبوعيا**	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	20% (20)	5, 12	(LO #3,4) (LO #5,6)
	Online Assignments	3	6% (6)	Continuous	(LO # 3-5) (LO # 6-10)
	Projects	1	10% (10)	13	All
	Onsite assignment	4	1% (1)	4, 5, 10, 11	LO # 3-9
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-5
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	**Introduction to Autodesk AutoCAD** • Starting the Software • User Interface • Working with Commands • Cartesian Workspace • Opening an Existing Drawing File • Saving a Drawing File
Week 2	**Basic Drawing & Editing Commands** • Drawing Lines • Erasing Objects • Drawing Lines with Polar Tracking • Drawing Rectangles • Drawing Circles • Undo and Redo Actions
Week 3	**Projects - Creating a Simple Drawing** • Create a Simple Drawing • Create Simple Shapes

Week 4	**Drawing Precision in AutoCAD** • Using Running Object Snaps • Using Object Snap Overrides • Polar Tracking at Angles • Object Snap Tracking • Drawing with Snap and Grid
Week 5	**Making Changes in Your Drawing** • Selecting Objects for Editing • Moving Objects • Copying Objects • Rotating Objects • Scaling Objects • Mirroring Objects • Editing with Grips
Week 6	**Advanced Object Types** • Drawing Arcs • Drawing Polylines • Editing Polylines • Drawing Polygons • Drawing Ellipses
Week 7	**Advanced Editing Commands** • Trimming and Extending Objects • Stretching Objects • Creating Fillets and Chamfers • Offsetting Objects • Creating Arrays of Objects
Week 8	Mid-term exam
Week 9	**Adding Dimensions** •Dimensioning Concepts •Adding Linear Dimensions •Adding Radial and Angular Dimensions •Editing Dimensions **Text** •Working with Annotations •Adding Text in a Drawing •Modifying Multiline Text •Formatting Multiline Text •Adding Notes with Leaders to Your Drawing

Week 10	**Hatching** •Hatching •Editing Hatches
Week 11	3D modeling
Week 12	Convert 2D To 3D.
Week 13	Exercises drawing
Week 14	**Printing Your Drawing** •Printing Layouts •Print and Plot Settings
Week 15	Preparatory week before the final Exam

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.	Yes
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.	No
Websites	https://www.coursera.org/browse/physical-science-and-engineering	

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نموذج وصف المقرر الدراسي

الديمقراطية وحقوق الانسان

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Module Information

<div dir="rtl">معلومات المادة الدراسية</div>

Module Title	**Democracy and Human Rights**	**Module Delivery**	
Module Type	**Basic**	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**MTU1006**		
ECTS Credits	**2**		
SWL (hr/sem)	**50**		
Module Level	UGI	**Semester of Delivery**	1
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	<div dir="rtl">أ.م.د.عبد العزيز مهدي مكي</div>	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules

<div dir="rtl">العلاقة مع المواد الدراسية الاخرى</div>

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

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives **أهداف المادة الدراسية**	1. دراسة التطور التاريخي لفهم حقوق الإنسان من الحضارات القديمة إلى العصور الحديثة. ٢ .حقوق الإنسان في الشرائع السماوية: التركيز على حقوق الإنسان في الإسلام وكيف تم تضمينها في الشريعة الإسلامية. ٣ .اعتراف إقليمي بحقوق الإنسان: فحص اعتراف الأقاليم الأوروبي، الأمريكي، الإفريقي، الإسلامي، والعربي بحقوق الإنسان. ٤ .دور المنظمات غير الحكومية: دراسة دور المنظمات مثل اللجنة الدولية للصليب الأحمر ومنظمة العفو الدولية في حماية حقوق الإنسان. ٥ .الإطار القانوني الدولي والإقليمي: التركيز على المواثيق الدولية والإقليمية، مثل الاعلان العالمي لحقوق الإنسان. ٦ .تحليل حقوق الإنسان في التشريعات الوطنية: دراسة كيفية ترجمة حقوق الإنسان في التشريعات الوطنية، مع التركيز على الدستور العراقي. ٧ .تصنيف حقوق الإنسان وضماناتها: فهم مختلف أشكال حقوق الإنسان والضمانات الدستورية والقضائية والسياسية لحمايتها.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	١ .القدرة على وصف وتحليل التطور التاريخي لحقوق الإنسان منذ الحضارات القديمة حتى العصور الحديثة. ٢ .القدرة على فحص حقوق الإنسان في حضارة وادي الرافدين وغيرها لفهم التأثير الثقافي على تطورها. ٣ .تفسير حقوق الإنسان في الإسلام وفهم كيف تم تضمينها في الشريعة الإسلامية. ٤ .القدرة على تحليل تطور حقوق الإنسان خلال العصور الوسطى والحديثة. ٥ .الفهم الشامل لاعتراف الأقاليم الأوروبي، الأمريكي، الإفريقي، الإسلامي، والعرب بحقوق الإنسان. ٦ .القدرة على تقييم دور منظمات مثل اللجنة الدولية للصليب الأحمر ومنظمة العفو الدولية في حماية حقوق الإنسان. ٧ .القدرة على دراسة وتحليل المواثيق الدولية والإقليمية، بما في ذلك الاعلان العالمي لحقوق الإنسان. ٨ .القدرة على فحص كيف تم ترجمة حقوق الإنسان في التشريعات الوطنية، مع التركيز على مثال الدستور العراقي. ٩ .القدرة على تصنيف حقوق الإنسان إلى أشكال فردية وجماعية، وأجيال مثل الحقوق المدنية والسياسية والاقتصادية والاجتماعية. ١٠ .القدرة على تحليل الضمانات الدستورية والقضائية والسياسية لحقوق الإنسان على الصعيدين الوطني والدولي والإقليمي .

Indicative Contents المحتويات الارشادية	فهم التاريخ التطوري لحقوق الإنسان (٣ س) تحليل حقوق الإنسان في الحضارات القديمة (٣ س) فهم حقوق الإنسان في الشرائع السماوية (٣ س) تحليل حقوق الإنسان في العصور الوسطى والحديثة (٣ س) فهم الاعتراف الإقليمي بحقوق الإنسان (٣ س) تقدير دور المنظمات غير الحكومية (٣ س) فهم الإطار القانوني لحقوق الإنسان (٣ س) تحليل حقوق الإنسان في التشريعات الوطنية (٣ س) فهم أشكال وأجيال حقوق الإنسان (٣ س) تحليل ضمانات حقوق الإنسان (٣ س)

Learning and Teaching Strategies استراتيجيات التعليم والتعلم	
Strategies	تشجيع الطلاب على المشاركة في مناقشات تفاعلية حول تطور حقوق الإنسان عبر التاريخ. مشروعات بحثية: توجيه الطلاب في إعداد مشروعات بحثية تستكشف تطور حقوق الإنسان في فترات تاريخية محددة. استخدام التكنولوجيا: تضمين وسائل تكنولوجية لتعزيز تفاعل الطلاب وتقديم المعلومات بشكل أكثر تفاعلية. ورش العمل والتمثيل العملي: إجراء ورش عمل تفاعلية وأنشطة تمثيل لفهم أعمق لمفاهيم حقوق الإنسان. تقديم تقييم مستمر: تقديم تقييم مستمر لفحص تقدم الطلاب وفهمهم لتطور حقوق الإنسان على مر العصور.

Student Workload (SWL) الحمل الدراسي للطالب محسوبا لـ15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5, 9	LO #1, 2, 3, LO # 6, 7
	Assignments	2	10% (10)	6, 13	LO # 4 and LO#9
	Seminar	1	10% (10)	12	LO# 5, 6, 7, 8
	Report	1	10% (10)	14	LO# 8, 9, 10
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO # 1-7
	Final Exam	3hr	50% (5)0	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

الأسبوع الأول	التطور التاريخي لحقوق الانسان حقوق الانسان في الحضارات القديمة (حضارة وادي الرافدين، والحضارات القديمة الأخرى)
الأسبوع الثاني	حقوق الانسان في الشرائع السماوية مع التركيز على حقوق الانسان في الاسلام.
	حقوق الانسان في العصور الوسطى والحديثة.
الاسبوع الثالث	الاعتراف الاقليمي بحقوق الانسان على الصعيد الأوربي الأمريكي، الأفريقي، الإسلامي، العربي
الأسبوع الرابع	المنظمات غير الحكومية ودورها في حقوق الانسان اللجنة الدولية للصليب الاحمر، منظمة العفو الدولية، منظمة مراقبة حقوق الانسان المنظمة العربية لحقوق الانسان(
الأسبوع الخامس	حقوق الانسان في المواثيق الدولية والاقليمية والتشريعات الوطنية. حقوق الانسان في المواثيق الدولية (الاعلان العالمي لحقوق الانسان العهدين الدوليين الخاصين بحقوق الانسان
الأسبوع السادس	حقوق الانسان في المواثيق الاقليمية (الاتفاقية الأوربية لحقوق الانسان الاتفاقية الامريكية لحقوق الانسان الميثاق الأفريقي لحقوق الانسان الميثاق العربي لحقوق الانسان
الأسبوع السابع	امتحان منتصف الفصل الدراسي
الأسبوع الثامن	حقوق الانسان في التشريعات الوطنية (الدستور العراقي)
الأسبوع التاسع	اشكال واجبال حقوق الانسان: اشكال حقوق الانسان الحقوق الفردية، الحقوق الجماعية اجيال حقوق الانسان الجيل الاول الحقوق المدنية والسياسية)، (الجيل الثاني الحقوق الاقتصادية والاجتماعية)، (الجيل الثالث: حقوق الانسان الحديثة،الوعي الماني والبيتي
الأسبوع العاشر	ضمانات حقوق الانسان وحمايتها على الصعيد الوطني

الضمانات الدستورية والقضائية والسياسية	
ضمانات حقوق الإنسان وحمايتها على الصعيدين الاقليمي والدولي (دور الامم المتحدة، دور المنظمات الاقليمية جريمة الإبادة الجماعية.	الاسبوع الحادي عشر
تصنيف الحريات العامة الحريات الأساسية والفردية حرية الامن والشعور بالاطمئنان حرية الذهاب والاياب، الحرية الشخصية	الاسبوع الثاني عشر
الحريات الفكرية والثقافية حرية الرأي حرية المعتقد حرية التعليم حرية الصحافة حرية التجمع حرية تشكيل الجمعيات	الأسبوع الثالث عشر
الحريات الاقتصادية والاجتماعية حرية العمل، حرية التملك حرية التجارة والصناعة	الأسبوع الرابع عشر
الاستعداد للامتحان النهائي	الأسبوع الخامس عشر

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	١ .حقوق الإنسان في العالم العربي: القضايا والتحديات"، تأليف: علي حجازي وجمال شعت. الطبعة: الطبعة الثانية، العام: 2017. مبادئ حقوق الإنسان: المفاهيم والقضايا الحديثة"، تأليف: أحمد المجالي وغسان حمدان. الطبعة: الطبعة الأولى، العام: 2019.	No
Recommended Texts	1."حقوق الإنسان والديمقراطية"، تأليف: مصطفى كامل محمود. الطبعة: الطبعة الأولى، العام: 2015. 2."تاريخ حقوق الإنسان في العصور القديمة والوسطى"، تأليف: نبيل رزق. الطبعة: الطبعة الثالثة، العام: 2012. ٣ .حقوق الإنسان في العراق: الواقع والتحديات"، تأليف: سعد الله عباس. الطبعة: الطبعة الأولى، العام: 2014. ٤ .حقوق الإنسان في العراق: المفهوم والتطور"، تأليف: عبد الكريم السامرائي. الطبعة: الطبعة الأولى، العام: 2018. "حقوق الإنسان في العراق: بين التحديات والآفاق"، تأليف: محمد السامرائي ولقاء الحربي. الطبعة: الطبعة الأولى، العام: 2020.	No
Websites	The Collage E-Library	

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

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

نموذج وصف المقرر الدراسي

اللغة الانكليزية I

<table>
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<td colspan="3">Module Information
معلومات المادة الدراسية</td>
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<tr>
<td>Module Title</td>
<td><strong style="color:red">English Language 1</td>
<td rowspan="5">Module Delivery

☒ Theory
☒ Lecture
☐ Lab
☐ Tutorial
☐ Practical
☐ Seminar</td>
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<td>MIET</td>
<td>College   S.I.U.C</td>
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<td>Module Leader's Qualification   MSc.</td>
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<tr>
<td>Module Tutor</td>
<td>م.م. حارث عبدالله محمود</td>
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<tr>
<td>Peer Reviewer Name</td>
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<td>8/11/2023</td>
<td>Version Number   1.0</td>
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<td colspan="3">Relation with other Modules
العلاقة مع المواد الدراسية الاخرى</td>
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<td>Prerequisite module</td>
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<td>Co-requisites module</td>
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Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية

| **Module Aims**
أهداف المادة الدراسية | The module aims of English Language (1) are designed to help learners at the beginner – pre-intermediate level develop their English language skills and achieve specific learning objectives, By the end of this course, students will:
1. Grammar Mastery: Develop a strong command of grammar rules, including possessive forms, question words, pronouns, prepositions, present simple, past simple, present continuous, past continuous, comparative and superlative adjectives, verb patterns, modal verbs (have/got to, should, must), time and conditional clauses, present perfect, past perfect, reported statements, and more.
2. Vocabulary Expansion: Expand their vocabulary in various contexts, covering numbers, family members, rooms and furniture, locations in and out of town, food and dining, parts of speech, synonyms, antonyms, and phrasal verbs.
3. Everyday English Proficiency: Develop practical language skills for everyday communication, including greetings, introductions, short answers, conversations, and expressions commonly used in daily life.
4. Reading Comprehension: Improve their reading comprehension skills through the analysis of diverse texts, including stories, articles, and informative content on a wide range of topics.
5. Writing Competence: Enhance their writing abilities by composing informal letters, using linking words, writing reviews of books or films, and crafting stories.
6. Critical Thinking and Analysis: Develop critical thinking skills by analyzing and discussing texts, comparing and contrasting information, and drawing conclusions from reading materials.
7. Cultural Awareness: Gain cultural insights through readings and discussions about various cultures and places around the world, fostering a broader worldview.
8. Effective Communication: Improve their ability to express ideas clearly and confidently in both spoken and written forms, making them effective communicators in English.
9. Language Assessment: Prepare for assessments, including a midterm exam, by reviewing and demonstrating their understanding of grammar, vocabulary, and reading comprehension.
10. Independent Learning: Develop independent learning skills, enabling them to continue improving their English language proficiency beyond the course.
11. Language Fluency: Work towards achieving fluency in English, allowing them to engage in conversations, express thoughts, and write coherently with ease.
12. Cultural Competency: Build cultural competence and sensitivity through exposure to diverse texts and discussions about different cultures and lifestyles.
These course goals reflect the overarching objectives of the English class and provide a clear direction for student learning and language development throughout the 15-week course. |

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The learning outcomes for English (1) 15-week English class syllabus: 1. Students will comprehend and discuss texts on different topics 2. Students will expand their vocabulary related to various topics 3. Students will acquire vocabulary related to Various topics 4. Students will be able to write letters , and reviews. 5. Students will be able to use possessive forms correctly in sentences, indicating ownership. 6. Students will master question words, pronouns, and prepositions. 7. Students will distinguish between present simple and past simple tenses. 8. Students will learn about the present continuous, present simple vs. continuous, and have & have got. 9. Students will study the past continuous and quantity and articles. 10. Students will understand comparative and superlative adjectives. 11. Students will focus on verb patterns, future intentions, and present perfect and past simple tenses. 12. Students will study modal verbs (have/got to, should, must). 13. Students will learn about time and conditional clauses. 14. Students will cover present perfect continuous, present perfect simple vs. continuous, past perfect for clarification, and reported statements
Indicative Contents المحتويات الارشادية	Beginners book : **Grammar :** Possessive (CH1,2,4) **Vocabulary –** numbers –(CH1, 2, 5) -- the family (Ch4) **Every day English-**all (Ch1,3) **Reading-** where are they (Ch2) , The Chairty Walk, (Ch3) , My best Friend,(Ch4) .... (2 hours) **Grammar :** Question words (CH 7) – Pronouns (Ch7) – Prepositions (Ch8) **Vocabulary –** Rooms and Furniture –(CH8) – in and out of Town (Ch4), Saying Years (ch9) **Every day English-**all (Ch 9) **Reading-** A Postcard from San Fransisco (Ch7) , Vancouver , the best city in the world, (Ch8) , It is a Jacksin Pollock ,(Ch9) .... (2 hours) **Grammar :** Present Simple (Ch5,6)- Past Simple (Ch9,10) **Vocabulary – shopping, food, in a restaurant** (ch12) **Every day English-**all (Ch 14) **Reading-** The internet (Ch11) , You are what you eat (Ch12) , This week is different (Ch13) , Life's big events (Ch14) .... (2 hours) Pre-intermediate book: **Grammar :** - **Vocabulary –** Parts of speech (ch1,3, 7) **Every day English-**Social expressions (Ch 1) **Reading-** People the great communicators (Ch1) **Writing-** A letter to a pen friend (informal) (Ch1) .... (2 hours) **Grammar :** - Present continuous – Present simple vs. continuous- have &have got (ch2) **Vocabulary –** **Every day English-**Making conversation (Ch 2) **Reading-** Living in the USA (Ch2) **Writing-** Linking words (Ch2,3) .... (2 hours) **Grammar :** - Past continuous (ch3) – Quantity and Articles (Ch4) **Vocabulary – Every**

	day English- **Reading-** The burglar's friend – The thief, his mother and 2 billion – Sherlock Holmes the three students (Ch3) **Writing-** …………………….. (2 hours) **Grammar :** - comparative and superlative adj (ch6) **Vocabulary –** synonyms and antonyms (ch6) **Every day English-** **Reading-** Markets around the world(Ch4) **Writing-** …………………….. (2 hours) **Grammar:** **Vocabulary:** **Every day English:** **Reading-** Hollywood Kids (Ch5) – A tale of two millionaires (ch6) **Writing-** …………………….. (2 hours) **Grammar :** Verb Patterns (Ch5) – Future intentions (Ch5)- Present Perfect and Past simple (ch7) **Vocabulary:** **Every day English:** **Reading:** **Writing:** Relative clauses (ch6,7)…………………….. (2 hours) **Grammar :** have (got)to, should, must (ch8) **Vocabulary: -** **Every day English:** Short Answers (ch7) – At the doctor's (ch8) **Reading-** Celebrity interview from Hi (Ch7) **Writing-** …………………….. (2 hours) **Grammar :** Time and conditional clauses (ch9) **Vocabulary: -** **Every day English:** In a hotel (ch9) **Reading-** Problem page (Ch8) **Writing-** Formal letter (ch8) …………………….. (2 hours) **Grammar :** **Vocabulary: -** **Every day English:** Exclamation (ch11) – saying goodbye (ch14) **Reading-** The world's first megalopolis (Ch9) **Writing-** writing a review of a book or a film (ch11)…………………….. (2 hours) **Grammar :** **Vocabulary:** Phrasal verbs (ch12)- word formation (ch3) **Every day English:** Social expressions (ch12) **Reading-** Super volcano (Ch12) **Writing-** writing a story (ch14)…………………….. (2 hours) **Grammar :** present perfect continuous (ch13) - Present perfect simple vs continuous (ch13)- Past perfect for clarification (ch14) – Reported statement (ch14) **Vocabulary:** **Every day English:** **Reading-** A funny way to earn a living (Ch13) **Writing-** …………………….. (2 hours)

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 Workload (SWL)			
الحمل الدراسي للطالب محسوبا ل15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	50		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	3, 12	LO #1-6 and 1,2,4,10-12
	Assignments	2	10% (10)	4, 10	LO # 1-7 and 1-11
	Discussion	2	10% (10)	continuous	1-14
	Onsite assignment	5	10% (10)	continuous	1-14
Summative assessment	**Midterm Exam**	2 hours	10% (10)	7	LO # 1-9
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج النظري الاسبوعي

	Material Covered
Week 1	**Grammar :** Possessive (CH1,2,4) **Vocabulary –** numbers –(CH1, 2, 5) -- the family (Ch4) **Every day English-**all (Ch1,3) **Reading-** where are they (Ch2) , The Chairty Walk, (Ch3) , My best Friend,(Ch4)
Week 2	**Grammar :** Question words (CH 7) – Pronouns (Ch7) – Prepositions (Ch8) **Vocabulary –** Rooms and Furniture –(CH8) – in and out of Town (Ch4), Saying Years (ch9) **Every day English-**all (Ch 9) **Reading-** A Postcard from San Fransisco (Ch7) , Vancouver , the best city in the world (Ch8) , It is a Jacksin Pollock (Ch9)
Week 3	**Grammar :** Present Simple (Ch5,6)- Past Simple (Ch9,10) **Vocabulary – shopping, food, in a restaurant** (ch12) **Every day English-**all (Ch 14) **Reading-** The internet (Ch11) , You are what you eat (Ch12) , This week is different (Ch13) , Life's big events (Ch14)
Week 4	**Vocabulary –** Parts of speech (ch1,3, 7) **Every day English-**all (Ch 1) **Reading-** People the great communicators (Ch1) **Writing-** A letter to a pen friend (informal) (Ch1)

Week 5	**Grammar :** - Present continuous – Present simple vs. continuous- have &have got (ch2) **Every day English-**Making conversation (Ch 2) **Reading-** Living in the USA (Ch2) **Writing-** Linking words (Ch2,3)
Week 6	**Grammar :** - Past continuous (ch3) – Quantity and Articles (Ch4) **Reading-** The burglar's friend – The thief, his mother and 2 billion – Sherlock Holmes the three students (Ch3)
Week 7	**Midterm**
Week 8	**Grammar:** - comparative and superlative adj (ch6) **Vocabulary –** synonyms and antonyms (ch6) **Reading-** Markets around the world(Ch4)
Week 9	**Reading-** Hollywood Kids (Ch5) – A tale of two millionaires (ch6)
Week 10	**Grammar :** Verb Patterns (Ch5) – Future intentions (Ch5)- Present Perfect and Past simple (ch7) **Writing:** Relative clauses (ch6,7)
Week 11	**Grammar :** have (got)to, should, must (ch8) **Every day English:** Short Answers (ch7) – At the doctor's (ch8) **Reading-** Celebrity interview from Hi (Ch7)
Week 12	**Grammar :** Time and conditional clauses (ch9) **Every day English:** In a hotel (ch9) **Reading-** Problem page (Ch8) **Writing-** Formal letter (ch8)
Week 13	**Every day English:** Exclamation (ch11) – saying goodbye (ch14) **Reading-** The world's first megalopolis (Ch9) **Writing-** writing a review of a book or a film (ch11)
Week 14	**Vocabulary:** Phrasal verbs (ch12)- word formation (ch3) **Every day English:** Social expressions (ch12) **Reading-** Super volcano (Ch12) **Writing-** writing a story (ch14)
Week 15	**Grammar :** present perfect continuous (ch13) - Present perfect simple vs continuous (ch13)- Past perfect for clarification (ch14) – Reported statement (ch14) **Reading-** A funny way to earn a living (Ch13)

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<tr><td colspan="3" align="center">**Learning and Teaching Resources**
مصادر التعليم والتعلم</td></tr>
<tr><td></td><td align="center">**Text**</td><td>**Available in the Library?**</td></tr>
<tr><td>**Required Texts**</td><td>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: Preintermediate. United Kingdom: Oxford University Press.</td><td>Yes</td></tr>
<tr><td>**Recommended Texts**</td><td>Audio CDs or Online Audio: Recordings of listening exercises, dialogues, and pronunciation practice. Beginner workbook Pre-intermediate Workbook</td><td>No</td></tr>
<tr><td>**Websites**</td><td></td><td></td></tr>
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Group	Grade	التقدير	Marks (%)	Definition
grading title				

Grading Scheme
مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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Fail Group (0 – 49)	**FX** – Fail	راسب(قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

نموذج وصف المقرر الدراسي
الكيمياء الطبية

Module Information			
معلومات المادة الدراسية			

Module Title	**MEDICAL CHEMISTRY**	Module Delivery	
Module Type	**Support**	☒ Theory	
Module Code	**MIET1107**	☐ Lecture	
ECTS Credits	**7**	☒ Lab	
		☒ Tutorial	
SWL (hr/sem)	**175**	☐ Practical	
		☐ Seminar	

Module Level	UGI	Semester of Delivery	1
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.م. فاطمه علي عيسى	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

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
	أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية

Module Aims أهداف المادة الدراسية	1- To write and balance chemical equation which many calculations depend on. 2- To convert chemical formula to components composition percent or to conclude empirical formula depending upon composition percent. 3-To predict about the economic pathway for specific reaction 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 suitable dissociation constant of acid. 5- To understand the effect of common ions on equilibrium of reversible reactions. 6-To focus on theoretical working principles of spectrophotometric instruments. 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-Eestimate 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. 9-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.
	10-List the components of photometric determination techniques, in addition to principals of their works.
	11- Identify the photometric instrumentations such as FIS, FT-IR spectrophotometer, and mass spectrophotometry.
	12- Emphasize the vital role of isotopes in diagnosis and diseases treatment.
Indicative Contents المحتويات الارشادية	Isotopes, Chemical formula, Units conversion (5 hr) Normality, Formality, Molarity, Molality, Mole fraction, Mill equivalent, ppm, ppb, mass percent, mass/vol percent. (10 hr) Stoichiometry (4 hr) Chemical equilibrium (4 hr) dissociation constant (5 hr) pH (4 hr) Buffers (5 hr) common ion (4 hr) Solubility product constant (4 hr) Statistical treatment, average, range, standard deviation, variance, Absolute error, relative error. (6 hr) Redox reactions, Electrochemistry, electrolytes, Nernst equation, cell potential (6 hr). 1st law of thermodynamic, Reversible and irreversible process, Heat capacities, adiabatic process, Isothermal processes (6 hr). 2nd law of thermodynamic, entropy, Gibbs free energy (4 hr). Photochemistry, electromagnetic spectrum, Beer Lambert law (6 hr). IR Spectrophotometer, mass spectroscopy, FIS, FES (6 hr). Potentiometer, conductive meter, pH-meter (5 hr).

Learning and Teaching Strategies استراتيجيات التعليم والتعلم	
Strategies	Homework assignments, written exam, Quizzes, seminars, reports, practical tests and Online tests

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	81	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	15min/ 2 times	20% (20)	5th , 12th	LO# $1_{st} - 5_{th}$ LO# $10^{th} - 12^{th}$
	Online Assignments	5min/ 2 times	10% (10)	6th ,13th	LO# 1st LO# 10th
	Lab.	Each lab/ 5 times	5% (5)	3rd , 4th , 5th , 6_{th} , 7th	LO# 1st -2nd , LO# 3rd LO# 4_{th} LO# 5_{th} LO# $6^{th} - 7^{th}$
	Seminar	10min/ One time	5% (5)	6th	LO# $2^{nd} - 5^{th}$
Summative assessment	**Midterm Exam**	180 min/ one time	10%	8th	LO# $1^{st} - 10^{th}$
	Final Exam	240min/ one time	50%	16th	
Total assessment			100%		

	Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري
	Material Covered
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. percent ratio.**
Week 3	**Stoichiometry**
Week 4	**Chemical equilibrium**
Week 5	**Acid-Base dissociation constant**
Week 6	**pH-scale, buffer solution+ Solubility of precipitations, common ion effect**
Week 7	**Mid-term Exam**
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, relative error.**
Week 9	**Redox reactions, balancing of redox equation**
Week 10	**Electrochemistry: electrochemical cells, types of electrodes, electrolytes, Nernst equation, cell potential**
Week 11	**Thermodynamic, Zero and first law of thermodynamic, Reversible and irreversible expansion, Heat capacities, adiabatic expansion, 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, instrumentations components of spectrophotometer.**
Week 14	**IR Spectrophotometer, mass spectroscopy, flame ionization spectrophotometry.**
Week 15	Potentiometer, conductive meter, pH-meter and some other applications of chemical sensors+ Preparatory week before the final Exam

	Delivery Plan (Weekly Lab. Syllabus)
	المنهاج الاسبوعي للمختبر
	Material Covered
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 solution of primary standard materials and to standardize secondary standard substance of HCl, (acid-base titration)
Week 6	Standardization 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 التعليم والتدريس		
Required Texts		
Recommended Texts	1- ESSENTIALS OF GENERAL CHEMISTRY By EBBING GABBON RAGSDALE 2- CHEMICAL PRINCIPLES By Steven S Zumdahl - 4th edition	No
Websites		

<table>
<tr><th colspan="5" style="text-align:center">Grading Scheme
مخطط الدرجات</th></tr>
<tr><th>Group</th><th>Grade</th><th>التقدير</th><th>Marks (%)</th><th>Definition</th></tr>
<tr><td rowspan="5">Success Group
(50 - 100)</td><td>A - Excellent</td><td>امتياز</td><td>90 - 100</td><td>Outstanding Performance</td></tr>
<tr><td>B - Very Good</td><td>جيد جدا</td><td>80 - 89</td><td>Above average with some errors</td></tr>
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<tr><td rowspan="2">Fail Group
(0 – 49)</td><td>FX – Fail</td><td>راسب(قيد المعالجة)</td><td>(45-49)</td><td>More work required but credit awarded</td></tr>
<tr><td>F – Fail</td><td>راسب</td><td>(0-44)</td><td>Considerable amount of work required</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>

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

وصف المقرر للمرحلة الاولى

الكورس الثاني

Module Information

معلومات المادة الدراسية

Module Title	Fundamentals of Electrical Engineering (AC)	Module Delivery	
Module Type	Core	☒ Theory	
Module Code	MIET1201	☐ Lecture	
		☒ Lab	
ECTS Credits	6	☒ Tutorial	
		☐ Practical	
SWL (hr/sem)	150	☐ Seminar	
Module Level	UGI	Semester of Delivery	2
Administering Department	MIET	College	S.I.U.C
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	م.د. علاء حسين احمد	e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	8/11/2023	Version Number	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الاخرى

Prerequisite module	Fundamentals of Electrical Engineering (DC)	Semester	1
Co-requisites module	None	Semester	

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

Module Aims أهداف المادة الدراسية	1. To develop problem solving skills and understanding of circuit theory through the application of techniques. 2. To understand capacitance, inductance and resistance from an AC circuit. 3. To learn the basic concept of First-Order electrical circuits. 4. To explain the parallel and series circuits. 5. To understand Sinusoids and Phasors problems. 6. To perform AC- network theorem. 7. To perform AC Power Analysis. 8. To understand 3-phase system
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. Describe electrical capacitance, inductance and resistance. 5. Define First-Order electrical circuits' voltage, resistance, and current. 6. Identify the basic circuit elements and their applications. 7. Discuss the operations of sinusoids and phasors in an electric circuit. 8. Discuss the various properties of resistors, capacitors, and inductors. 9. Explain the parallel and series circuits. 10. Identify the capacitor and inductor phasor relationship with respect to voltage and current. 11. Learn the 3-Phase system, Wye connection and Delta connection. 12. Identify the power in balance phase circuit.
Indicative Contents المحتويات الارشادية	Indicative content includes the following. AC circuits I – Generation of alternating current, Sinusoidal current. The mean values of current and voltage. [15 hrs] AC Circuits II - The effective values of current and voltage. The vector diagram, [10 hrs] The instantaneous power and mean power of A.C , relative and apparent power . . [10 hrs] Revision problem classes [8 hrs] 3-Phase system, Wye connection, and Delta connection [10 hrs] The power in balance phase circuit. [7 hrs] Revision problem classes [5 hrs]

Learning and Teaching Strategies
استراتيجيات التعلم والتدريس

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

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150		

Module Evaluation
تقييم المادة الدراسية

		Time/Nu mber	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	8% (10)	5, 10	LO #1-4, 6- 9
	Project	1	10% (10)	12	LO # 1-11
	OnSite assignment	2	6% (6)	4, 11	LO # 4, 11
	Report and presentation	1	6% (6)	13	LO # 6, 8, 10
	Lab	5	10% (10)	3, 6, 9, 12, 15	LO # 1-2, 4-5, 7-8, 10-11, 13-14
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	4hr	50% (50)	15	All
Total assessment			100% (100 Marks)		

	Delivery Plan (Weekly Syllabus)
	المنهاج الاسبوعي النظر
	Material Covered
Week 1	Generation of alternating current, Sinusoidal current
Week 2	Average and RMS values of current & voltage
Week 3	AC in resistive circuits Current & voltage in an inductive circuit
Weeks 4-6	Current and voltage in an capacitive circuits AC series and parallel circuit RL, RC and RLC circuit analysis & phasor representation
Week 7	Mid-term exam
Weeks 8-11	Power in resistive circuits Power in inductive and capacitive circuits Power in circuit with resistance and reactance Measurement of power in a single-phase AC circuit
Week 12-15	Basic concept & advantage of Three-phase circuit Phasor representation of star & delta connection Measurements of power & power factor in 3-phase system Preparation for final exam

	Delivery Plan (Weekly Lab. Syllabus)
	المنهاج الاسبوعي للمختبر
	Material Covered
Week 1	Introduction to electrical elements, sources, and measuring devices related to electrical circuits.
Week 2 + week3	Generating AC Voltages and Measurement Frequency, Period, Amplitude, and Peak Value.
Week 4	Calculations and Verification of the Impedance of RL series circuits
Weeks 5	Calculations and Verification of the current of RL series circuits
Week 6	Calculations and Verification of Impedance RC series circuits + Calculations and Verification of Current RC series circuits
Weeks 7	Mid-term exam

Week 8	Calculations and verification of the impedance of RLC series circuits
Week 9	Calculations and verification of the current of RLC series circuits
Week 10	Calculations of Power in AC Circuits
Week 11	Calculations and verification of the impedance of RL and RC parallel circuits
Week 12	Calculations and verification of the current of RL and RC parallel circuits
Week 13	Calculations and verification of the impedance RLC parallel circuits
Week 14	Calculations and verification of the impedance current RLC parallel circuits
Week 15	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	Yes
Recommended Texts	Electric Circuits Seventh Edition وSchaum's Outline Series	No
Websites		

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

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

نموذج وصف المقرر الدراسي

الفيزياء الطبية

Module Information		
معلومات المادة الدراسية		

Module Title	Medical physics	Module Delivery
Module Type	Support	☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	MIET1202	
ECTS Credits	5	
SWL (hr/sem)	125	

Module Level	UG1	Semester of Delivery	2
Administering Department	MIET	College	S.I.U.C
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	م. جاسم حافظ محمد	e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	8/11/2023	Version Number	1.0

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	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims **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 physical activity of the lungs and breathing 3- to demonstrate the physics of the cardiovascular system and the urinary system 4- to distinguishes 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 the 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

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

12- Physics of the cardiovascular system (5 hrs)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Daily assessment - weekly assessment - quarterly assessment - objective questions - general questions - practical tests.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
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, Pressure in body organs
Week 5	Physics of the lungs and breathing.
Week 6	Physics of cardiovascular system
Week 7	Mid Term Exam
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+ Radiation protection
Week 15	Preparatory week before the final exam

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
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
Week 11	Lab 11: the concave lens

	Learning and Teaching Resources مصادر التعلم والتدريس	
	Text	Available in the Library?
Recommended 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 Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب(قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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نموذج وصف المقرر الدراسي

الميكانيك

Module Information
معلومات المادة الدراسية

Module Title	**Mechanics**	**Module Delivery**
Module Type	Support	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**
Module Code	**MIET 1203**	
ECTS Credits	**4**	
SWL (hr/sem)	**100**	

Module Level	UGI	**Semester of Delivery**	2
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	أ.د. عدنان عبد الامير عبد الرسول	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

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
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية

Module Aims أهداف المادة الدراسية	1. To understand mechanics theory through the application of motion. 2. To determine the forces, stress and strain under force effected. 3. To determine the reaction forces under load applied. 4. To understand the friction basic under mechanic applied 5. To understand the newton laws in motion. 6. To understand and solve problems in forces analysis. 7. To determine the materials properties and selective of materials.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identifying the basic of forces results in applications of structures. 2. Identify the basics 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 basics of stress and strain in mechanical applications. 7. List the various parameters associated with mechanics theory. 8. Identify the basics of forces analysis and their applications. 9. Explain the Newton's laws used in mechanics application. 10. Identify the basics of friction forces in motion. 11. Identify the basics of welding and riveted joints in mechanical applications. 12. Explain the mechanical test to determine the mechanical properties. 13. Discuss the phenomena of moment of forces under different force moment.

Indicative Contents المحتويات الارشادية	1- Indicative content includes the following. 2- Part A : 3- Introduction of forces, Analysis of Forces, Result of forces, Moment of forces, Equilibrium force system. [5 hrs] 4- Stress, Strain, stress – strain curve, Simple strain, Variable stress. [6 hrs] 5- Beams and bending, Analysis of structure. [5 hrs] 6- Friction, coefficient of friction, mechanism of friction. [5 hrs] Part B: 7- Materials properties, material selective, stress- strain diagram. [5 hrs] 8- Mechanical tensile test, compression test, impact test, hardness test. [5 hrs] 9- Mechanical joint, Rivet joint, welding connection. [5 hrs] 10- Beams and bending, Analysis of structure, Centroid, Second moment of area. [7 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Strategies in mechanical subject like: The main strategy that will be adopted in delivering this module is to encourage students to participate 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 type of simple experiments involving some sampling activities that are interesting to the students.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	84	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	3, 12	LO #1, 2, 10 and 11
	Online Assignments	2	10% (10)	5,9	LO # 3, 4, 6 and 7
	OnSite assignment	2	10% (10)	6, 10	LO # 5, 6, 8 and 9
	Report	1	10% (10)	14	LO # 2-10
Summative assessment	**Midterm Exam**	2 hr	10% (10)	8	LO # 1-7
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

	Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري

	Material Covered
Week 1:	• Introduction to Engineering Mechanics • Basic Concepts and Definitions
Week 2:	**Introduction to Statics and Vectors (Part 1)** • Course introduction, syllabus, and importance of Statics.
Week 3:	• Fundamentals of forces, types of forces. • Scalars and vectors. • Vector addition and subtraction. • Vector components and unit vectors.
Week 4:	**Introduction to Statics and Vectors (Part 2)** • Resultant of force systems (graphical method).
Week 5:	• Resultant of force systems (analytical method). • Moments of forces (torque). • Conditions for equilibrium. • Free-body diagrams and solving equilibrium problems.
Week 6:	**Stress, Strain, and Material Properties (Part 1)** □ Stress and types of stress. □ Strain and types of strain.
Week 7:	• Hooke's Law and material properties. • Stress-strain diagrams. • Thermal stress and strain.
Week 8:	**Mid-term Exam**

Week 9:	**Stress, Strain, and Material Properties (Part 2)** ⯐
	Simple strain and deformation.
Week 10:	⯐ Stress and strain transformations.
	• Shear and axial deformation.
	• Review and applications of stress and strain.
	• Assignment on stress and strain analysis.
Week 11:	**Second Moment of Area and Structural Analysis (Part 1)**
	⯐ Geometric properties of shapes.
	⯐ Centroids and center of mass.
Week 12:	• Second moment of area (moment of inertia).
	• Bending stress in beams.
	• Shear stress in beams.
Week 13:	**Second Moment of Area and Structural Analysis (Part 2)**
	⯐ Shear and moment diagrams.
	• Introduction to beams and types of loads.
	• Determining reactions in statically determinate structures.
	• Truss analysis.
	• Frame analysis.
Week 14:	**Friction**
	• Friction coefficient
	• Type of friction
	• Mechanism of friction.
	Stress Concentration, Fatigue, and Special Topics
	⯐ Review of special topics.
	• Comprehensive review of the course material.
	• Final exam or project presentations.
	Course evaluation and feedback.
Week 15:	Preparatory week before the final Exam

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	1- Engineering Mechanic's Statics, 12th Edition by R. C. Nibbler, 1995.	Yes
Recommended Texts	2- Engineering Mechanic's Statics, 7th Edition by James, L. Meriam, L. G Kraige, 1995.	No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	الالتقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
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Fail Group (0 – 49)	**FX** – Fail	راسب(قيد المعالجة)	(45-49)	More work required but credit awarded
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نموذج وصف المقرر الدراسي

الرياضيات التكاملية

Module Information معلومات المادة الدراسية			
Module Title	Integral Mathematics	**Module Delivery**	
Module Type	Support	☒ Theory	
Module Code	MIET1204	☐ Lecture ☐ Lab	
ECTS Credits	5	☒ Tutorial ☐ Practical	
SWL (hr/sem)	125	☐ Seminar	
Module Level	UGI	**Semester of Delivery**	2
Administering Department	MITE	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م. جاسم حافظ محمد	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	15/11/2023	**Version Number**	2.0

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	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	

Module Objectives أهداف المادة الدراسية ادية	1. To develop problem solving skills and understanding of Integral calculus through a broad range of Integration techniques. 2. To understand theory and methods of integrations and apply it on various types of 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 student to integration of trigonometric functions and their inverses.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the integration. 2. Interpret definite and indefinite integrals. 3. Integrate functions resulting in inverse trigonometric functions. 4. Integrate functions involving exponential and logarithmic functions. 5. Learn approximation techniques for integration. 6. Calculate the areas of curved regions by using integration methods. 7. Find the volume of a solid of revolution using various integration methods. 8. Learn how to find the length of a plane curve for a given function. 9. Teaching students how to calculate the inverses of matrices and how to identify them. 10. Teaching students how to find the solution of a homogeneous system of linear equations. 11. Teaching students how to find the eigenvalues of a matrix and the corresponding eigenvectors of a matrix. 12. Determine the diagonalizability of a given matrix.
Indicative Contents المحتويات الارشادية	Indicative content includes the following. Introduction to integration. Methods of integration and Basics of Definite and indefinite Integration, Integration of trigonometric and inverse functions.Integration of the exponential functions, Integration of logarithmic functions. Integration of Hyperbolic and inverse hyperbolic functions, numerical integration and applications of the definite integrals. [30 hrs] Area of surface, Volume of revolution, Length of plane curve, Matrices and Inverse of matrix, Matrix DiagonalizationSolution of homogeneous systems, Eigenvalues, and Eigenvectors[40 hrs] Revision problem classes [3 hrs]

Learning and Teaching Strategies	
استراتيجيات التعلم والتعليم	
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.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوب لـ15اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	125		

Module Evaluation				
تقييم المادة الدراسية				
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
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Formative assessment	**Quizzes**	2	10% (10)	5 and 12	LO #1- #4 and #6 - #12
	Online assignments	2	10% (10)	3 and 13	LO #1- #4 and #6 - #12
	Report	1	10% (10)	14	LO #1- #6 and #8 - #11
	OnSite assignment	1	10% (10)	4 and 11	LO #1- #9
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	LO #1 - #5
	Final Exam	3hr	50% (50)	16	LO #1- #12
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الدراسي النظري

	Material Covered
Week 1	Introduction to 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** + numerical integration and applications of the definite integrals.
Week 8	Area of surface.
Week 9	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 and Eigenvectors
Week 15	**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 ' Calculus (pdf) Fouteenth edition Based on the original work by GEORGE B. THOMAS, JR.	No
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 Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	راسب(قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

Module Information		
معلومات المادة الدراسية		

Module Title	Engineering Workshops	Module Delivery
Module Type	Support	☐ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	EETC1001	
ECTS Credits	5	
SWL (hr/sem)	125	

Module Level	UGI	Semester of Delivery	2
Administering Department	MIET	College	S.I.U.C
Module Leader	أ.د.عدنان عبد الامير عبد الرسول	e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	8/11/2023	Version Number	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الاخرى			
Prerequisite module	None	Semester	None
Co-requisites module	None	Semester	None

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims 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	Indicative content includes the following: Lathe workshop, measuring devices, different tools, cutting tools, welding, gas welding, and point welding. [7 hrs.]. Electrical transformers, magnetic circuit, and electrical circuits. [6 hrs.]. Different measuring devices in the workshop (such as an ovometer, oscilloscope, power supply, etc.) [8 hrs.]. Soldering iron and printed electronic circuits [4 hrs.]. Coils, capacitors, and resistors [6 hrs.]. Switches and fuses [4 hrs.]. Semiconductor diode, and transistor [6 hrs.]. Electronic map, faults on the electronic map, and design electronic circuits on the printed board [8 hrs.]. Implemented a simple electronic circuit on the printed board [4 hrs.]. Integrated electronic circuits [4 hrs.].

Learning and Teaching Strategies	
استراجيات التعلم والتعليم	
Strategies	Daily assessment - weekly assessment - quarterly assessment - objective questions - general questions - practical tests.

Student Workload (SWL)
الحمل الدراسي للطالب محسوب لـ15اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل		63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل		62	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل		125		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	3, 8	LO # 1-2 and 4-6
	Assignments	2	10% (10)	9, 13	LO # 3 and #4
	Projects / Lab.	8	15% (10)	Continuous	
	Reports	1	5% (10)	6	LO # 7
Summative assessment	Midterm Exam	2 hr.	10% (10)	8	LO # 1-7
	Final Exam	3 hr.	50% (50)	15	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
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 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. Lab 8- Coil types, methods of checking them, electrical transformers, types, checking, autotransformer, the difference between an auto-transformer 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 8	Midterm- Exam
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	**Final Exam**

	Learning and Teaching Resources	
	مصادر التعلم والتدريس	
	Text	**Available in the Library?**
Recommended Texts	1. Encyclopedia of Electronic Components Volume 1 (Charles Platt). 2. Encyclopedia of Electronic Components Volume 2 (Charles Platt). 3. Encyclopedia of Electronic Components Volume 3 (Charles Platt). 4. Encyclopedia of Electronic Components Volume 4 (Charles Platt). 5. Encyclopedia of Electronic Components Volume 5 (Charles Platt).	NO
Websites	https://www.electricaltechnology.org/2013/03/how-to-remember-direction-of-pnpand.html	

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

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

نموذج وصف المقرر الدراسي

برمجة الحاسوب وتطبيقاته I

Module Information			
معلومات المادة الدراسية			

Module Title	Computer Programming and Applications I	Module Delivery	
Module Type	Support	☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	MIET1206		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGII	Semester of Delivery	3
Administering Department	MIET	College	S.I.U.C
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	م.م. معصومة حسين احمد	e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	8/11/2023	Version Number	1.0

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	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims أهداف المادة الدراسية	1. Understanding the fundamental concepts of MATLAB programming language environment. 2. The students will understand and learn how to use MATLAB as an effective programming language. 3. The students will be able to solve different mathematical and engineering problems as well as using plotting functions and design projects using codes or GUI. 4. Students will acquire the knowledge of basic MATLAB syntax such as: variables, input, output, vectors, matrices, functions, plotting, and GUI, 5. The students will gain the necessary skills to design and implements appropriate algorithms that solve problems dealing with different mathematical and engineering applications.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Understand the MATLAB environments and windows (Command Window, Workspace Window, Command History window, Help Window, Editor Window). 2. The students learn how to write first program and learn Expressions, Constants, Entering Matrices, Useful Matrix Generators, Subscripting, End as a subscript, Colon Operator, Transpose Deleting Rows or Columns. 3. Explain how to use variables and assignment statement, logical operator. 4. Practice on using Arrays, Built in functions, Basic Matrix Functions(sum, max, min, mean, magic, diag, length, size, median, prod, sort). 5. Learn how to perform basic Plotting (Multiple Data Sets in One Graph, Specifying Line Styles and Colors, Multiple Plots in One Figure, Setting Axis Limits). 6. Understand arguments and return values, M-file, input-output statement. 7. Train on using control Statements (Conditional statements: If, Else, Elseif, switch case) 8. Identify the repetition statements: (While statement, For statement). 9. Learn how to use combination of conditional and repetition statements. 10. Understand the procedures and functions (a custom-made MATLAB function, define the name of the function, the input and the output variables, Calling Functions). 11. Learn how to handle graphics and user interface. 1.pre-defined dialogs 2. Handle graphics a) Graphics objects b) Properties of objects c) Modifying properties of graphics objects. 12. Train of GUI Interface (Attaching buttons to actions, Getting Input, Setting Output).

Indicative Contents المحتويات الارشادية	1. Window, Workspace Window, Command History window, Help Window, Editor Window. (3 hr) 2. Constants, Entering Matrices, Useful Matrix Generators, Subscripting, End as a subscript, Colon Operator, Transpose Deleting Rows or Columns. (5 hr) 3. variables and assignment statement, logical operator. (5 hr) 4. sum, max, min, mean, magic, diag, length, size, median, prod, sort. (2 hr) 5. Multiple Data Sets in One Graph, Specifying Line Styles and Colors, Multiple Plots in One Figure, Setting Axis Limits. (2 hr) 6. M-file, input-output statement. (2 hr) 7. Conditional statements: If, Else, Elseif, switch case. (3 hr) 8. While statement, For statement. (4 hr) 9. conditional and repetition statements. (4 hr) 10. accustom-made MATLAB function. (4 hr) 11. GUI. (4 hr) 12. GUI attaching buttons to actions, Getting Input, Setting Output. (4 hr)

Learning and Teaching Strategies
استراجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. Moreover, motivate the creative side by posing various problems to students and urging them to find appropriate solutions. Also forming work teams to assess the results of their work and change their structure periodically to develop the spirit of cooperation and development and motivate students to make intensive efforts to work different roles.

Student Workload (SWL)
الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	49	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	26	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (20)	5, 10	LO #1, 2, 3, 4,7,8,9 and 10
	Assignments	2	15% (20)	6, 13	LO # 9 and 10
	Projects / Lab.	10	10% (10)		
	Report	N/A			
Summative assessment	Midterm Exam	3hr	10% (10)	7	LO # 1-7
	Final Exam	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction, MATLAB Environment, MATLAB Windows(Command Window, Workspace Window, Command History window, Help Window, Editor Window).
Week 2	A First Program, Expressions, Constants, Entering Matrices, Useful Matrix Generators, Subscripting, End as a subscript, Colon Operator, Transpose Deleting Rows or Columns.
Week 3	Variables and assignment statement, logical operator.
Week 4	Arrays, Built in functions, Basic Matrix Functions (sum, max, min, mean, magic, diag, length, size, median, prod, sort).
Week 5	Basic Plotting (Multiple Data Sets in One Graph, Specifying Line Styles and Colors, Multiple Plots in One Figure, Setting Axis Limits).
Week 6	Arguments and return values, M-file, input-output statement,+ + Control Statements (Conditional statements: If, Else, Elseif, switch case)
Week 7	Mid-Exam

Week 8	Repetition statements: (While statement, For statement)
Week 9	Combination of conditional and repetition statements I
Week 10	Combination of conditional and repetition statements II
Week 11	Procedures and Functions (a custom-made MATLAB function, define the name of the function, the input and the output variables, Calling Functions)
Week 12	Handle graphics and user interface. 1.pre-defined dialogs 2. Handle graphics a) Graphics
	objects b) Properties of objects c) Modifying properties of graphics objects
Week 13	GUI Interface (Attaching buttons to actions, Getting Input, Setting Output) I
Week 14	GUI Interface (Attaching buttons to actions, Getting Input, Setting Output) II
Week 15	**Preparatory week before the final exam**

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction, MATLAB Environment, MATLAB Windows (Command Window, Workspace Window, Command History window, Help Window, Editor Window).
Week 2	A First Program, Expressions, Constants, Entering Matrices, Useful Matrix Generators, Subscripting, End as a subscript, Colon Operator, Transpose Deleting Rows or Columns.
Week 3	Variables and assignment statement, logical operator.
Week 4	Arrays, Built in functions, Basic Matrix Functions (sum, max, min, mean, magic, diag, length, size, median, prod, sort).
Week 5	Basic Plotting (Multiple Data Sets in One Graph, Specifying Line Styles and Colors, Multiple Plots in One Figure, Setting Axis Limits).
Week 6	Arguments and return values, M-file, input-output statement
Week 7	Control Statements (Conditional statements: If, Else, Elseif, switch case)
Week 8	Repetition statements: (While statement, For statement)
Week 9	Combination of conditional and repetition statements I
Week 10	Combination of conditional and repetition statements II

Week 11	Procedures and Functions(a custom-made Matlab function, define the name of the function, the input and the output variables, Calling Functions)
Week 12	Handle graphics and user interface. 1.Pre-defined dialogs 2. Handle graphics a) Graphics objects b) Properties of objects c) Modifying properties of graphics objects
Week 13	GUI Interface (Attaching buttons to actions, Getting Input, Setting Output) I
Week 14	GUI Interface (Attaching buttons to actions, Getting Input, Setting Output) II

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Introduction to MATLAB for Engineers William J. Palm III	yes
Recommended Texts	INTRODUCTION TO MATLAB FOR ENGINEERING STUDENTS ,David Houcque	
Websites		

Grading Scheme مخطط الدرجات

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

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

نموذج وصف المقرر الدراسي

اللغة العربية I

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Module Information
معلومات المادة الدراسية

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<td>**Module Title**</td>
<td align="center">**Arabic Language**</td>
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☒ **Theory**

☐ **Lecture**

☐ **Lab**

☐ **Tutorial**

☐ **Practical**

☐ **Seminar**

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<td>**ECTS Credits**</td>
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<td>**SWL (hr/sem)**</td>
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<tr>
<td>**Module Tutor**</td>
<td>م.م. معن مزعل شهاب</td>
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<tr>
<td>**Peer Reviewer Name**</td>
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<td>08/11/2023</td>
<td>**Version Number**</td>
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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	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Objectives **أهداف المادة الدراسية**	أهداف المادة الدراسية هي اني يكون الطالب قادراً على أن: ١.يتعرف على أنواع الأخطاء اللغوية المشتركة وتوضيح أسبابها وكيفية تجنبها. ٢.يتعلم القواعد المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة وكيفية كتابتها بشكل صحيح. ٣.يتعلم قواعد كتابة الألف الممدودة والمقصورة واستخدام الحروف الشمسية والقمرية بشكل صحيح. ٤.التعرف على الضاد والظاء ومعرفة كيفية التمييز بينهما في الكتابة. ٥.يتعلم طرق كتابة الهمزة بشكل صحيح وفقًا للقواعد اللغوية. ٦.التعرف على علامات الترقيم واستخدامها بشكل صحيح في النصوص. ٧.يفهم الفروق بين الاسم والفعل والتمييز بينهما في الجمل. ٨.يفهم المفاعيل وكيفية استخدامها بشكل صحيح في النصوص. ٩.يتعلم الأرقام والعدد واستخدامها في التعبير عن الكميات. ١٠.يتجنب الأخطاء اللغوية الشائعة في سياقات عملية لتعزيز فهم القواعد وتحسين المهارات اللغوية. ١١.يدرس النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. ١٢.يركز على الجوانب الشكلية للخطاب الإداري وكيفية كتابته بأسلوب صحيح ومناسب. ١٣.التعرف على لغة الخطاب الإداري وفهم استخدامها في التواصل الإداري. ١٤. يفهم نماذج من المراسلات الإدارية لتطبيق المفاهيم والمهارات المكتسبة في الخطاب الإداري.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	مخرجات التعلم للمادة الدراسية هي: ١.قدرة الطلاب على تحليل وتعريف الأخطاء اللغوية المشتركة وتطبيق القواعد الصحيحة لتجنبها. ٢.القدرة على استخدام القواعد اللغوية المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة بشكل صحيح. ٣.قدرة الطلاب على استخدام الألف الممدودة والمقصورة بشكل صحيح واستخدام الحروف الشمسية والقمرية بطريقة صحيحة. ٤.تمكين الطلاب من التمييز بين الضاد والظاء وتطبيق القواعد الصحيحة في الكتابة. ٥.القدرة على كتابة الهمزة بشكل صحيح وفقًا للقواعد اللغوية. ٦.استخدام علامات الترقيم بشكل صحيح في النصوص المكتوبة. ٧.فهم الطلاب للفروق بين الاسم والفعل وتمكينهم من استخدامهما بشكل صحيح في الجمل. ٨.القدرة على استخدام المفاعيل بشكل صحيح في النصوص المكتوبة. ٩.استخدام الأرقام والعدد بطريقة صحيحة للتعبير عن الكميات. ١٠.التمكن من تطبيق الأخطاء اللغوية الشائعة في سياقات عملية وتصحيحها بشكل مناسب. ١١.فهم استخدام النون والتنوين ومعاني حروف الجر واستخدامها بشكل صحيح في الجمل. ١٢.القدرة على كتابة الخطاب الإداري بأسلوب صحيح ومناسب وفهم لغة الخطاب الإداري. ١٣. تطبيق المفاهيم والمهارات المكتسبة في كتابة المراسلات الإدارية بشكل صحيح وفعال.

Indicative Contents المحتويات الارشادية	١. مقدمة عن الأخطاء اللغوية والتعريف بالتاء المربوطة والتاء المطؤلة والتاء المفتوحة. (3 ساعات) ٢. قواعد كتابة الألف الممدودة والمقصورة والتعرف على الحروف الشمسية والقمرية. (3 ساعات) ٣. دراسة الضاد والظاء وتعلم طرق كتابتهما بشكل صحيح. (3ساعات) ٤. تعلم كتابة الهمزة بشكل صحيح وفقًا للقواعد اللغوية. (3 ساعات) ٥. دراسة علامات الترقيم وتعلم استخدامها بشكل صحيح في النصوص اللغوية. (3 ساعات) ٦. التعرف على الاسم والفعل والتفريق بينهما وفهم القواعد المتعلقة بهما. (3 ساعات) ٧. دراسة المفاعيل وتعلم استخدامها في الجمل اللغوية. (3 ساعات) ٨. التعرف على الأعداد واستخدامها بشكل صحيح في العبارات والجمل. (3 ساعات) ٩. دراسة الأخطاء اللغوية الشائعة وتطبيقاتها في النصوص اللغوية. (3 ساعات) ١٠. تعلم استخدام النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. (2 ساعات) ١١. التعرف على الجوانب الشكلية للخطاب الإداري وفهم لغته وقواعده. (2 ساعات) ١٢. دراسة نماذج من المراسلات الإدارية وتطبيقها في الكتابة. (2 ساعات) توفر هذه المحتويات الإرشادية للطلاب فهماً شاملاً للمفاهيم اللغوية وتعلم القواعد والتطبيقات العملية التي تساعدهم في تطوير مهاراتهم اللغوية.

Learning and Teaching Strategies استراتيجيات التعليم والتعلم	
Strategies	١. التفاعل النشط: يتم تشجيع الطلاب على المشاركة والمشاركة الفعالة في الدروس من خلال المناقشات الجماعية والأنشطة التفاعلية. ٢. التعلم التعاوني: يشجع التعاون والتعاون بين الطلاب من خلال العمل الجماعي والمشاريع الجماعية، حيث يتعاون الطلاب مع بعضهم البعض لتحقيق أهداف التعلم المحددة. ٣. التطبيق العملي: يتم توفير فرص للطلاب لتطبيق المفاهيم والمهارات المكتسبة في سياقات عملية وواقعية، مما يعزز التفاعل الفعال مع المادة. ٤. استخدام التقنيات الحديثة: يستفيد الطلاب من استخدام التكنولوجيا في عملية التعلم، مثل استخدام الحواسيب والإنترنت للبحث والتعلم الذاتي. ٥. توفير ردود فعل فورية: يتم توفير ردود فعل فورية وتقييم مستمر للطلاب، سواء عن طريق التقييمات الشفهية أو الكتابية، مما يساعدهم على تحسين أدائهم وتطوير مهاراتهم. ٦. 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 للطلاب. ٧. باستخدام هذه الاستراتيجيات، يتم تعزيز التفاعل والتعلم الفعال للطلاب، و تحفيزهم على المشاركة واكتساب المعرفة والمهارات بشكل شامل وشيق.

Student Workload (SWL)
الحمل الدراسي للطالب محسوبا لـ15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	50		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	15% (15)	5, 10,13	LO #1, 5 and 11
	Assignments	3	15% (15)	2, 11,14	LO # 3, 6 and 12
	Projects / Lab.				
	Report	1	10% (10)	14	LO # 1-13
Summative assessment	**Midterm Exam**	2 hours	10% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

1-8 9-14 15-19	مقدمة عن الأخطاء اللغوية -التاء المربوطة والطويلة والتاء المفتوحة قواعد كتابة الالف الممدودة والمقصورة – الحروف الشمسية والقمرية الضاد والظاء	الأسبوع الأول الأسبوع الثاني الاسبوع الثالث
20-30	كتابة الهمزة	الأسبوع الرابع
31-36 37-44	علامات الترقيم الاسم والفعل والتفريق بينهما	الأسبوع الخامس الأسبوع السادس
45-50 51-61	المفاعيل + العدد امتحان منتصف الفصل الدراسي	الأسبوع السابع الأسبوع الثامن
62-69 70-75 76-80	تطبيقات الأخطاء اللغوية الشائعة النون والتنوين – معاني حروف الجر الجوانب الشكلية للخطاب الإداري	الأسبوع التاسع والعاشر الاسبوع الحادي عشر الاسبوع الثاني عشر

الأسبوع الثالث عشر والرابع عشر	لغة الخطاب الإداري +نماذج من المراسلات الإدارية	86-81
الأسبوع الخامس عشر	الاستعداد للأمتحان النهائي	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	-اخطاء لغوية شائعة،تأليف: خالد بن هلال بن ناصر العنبري ،مكتبة: الجيل الواعد الطبعة الاولى. ٢-قواعد الاملاء وعلامات الترقيم، تأليف: عبد السلام هارون، تحقيق:نبيل عبد السلام هارون، دار الكتب العلمية ،الطبعة الاولى ، ٢٠٠٥.	yes
Recommended Texts	أقسام الكلام العربي من حيث الشكل والوظيفة، تأليف: الدكتور فاضل مصطفى الساق ، تقديم الاستاذ الدكتور: تمام حسان ،مكتبة الخانجي - القاهرة، طبعة ١٩٧٧م.	No
Websites	The Collage E-Library	

Grading Scheme مخطط الدرجات

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

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

❖ **الكورس الأول :**

1. الاجهزة الطبية المختبرية |
2. دوائر الكترونية |
3. مكائن كهربائية
4. الرياضيات الهندسية
5. علم التشريح وعلم وظائف الأعضاء
6. جرائم نظام البعث في العراق
7. تطبيقات الحاسوب

❖ **الكورس الثاني :**

1. الاجهزة الطبية المختبريةII
2. دوائر الكترونية II
3. الإلكترونيات الرقمية
4. اجهزة الكيمياء السريرية
5. المحولات و المستشعرات الطبية الحيوية
6. اللغة الانكليزية II
7. اللغة العربية II

وصف المقرر للمرحلة الثانية

الكورس الأول

نموذج وصف المقرر الدراسي

الاجهزة الطبية المختبرية |

<table>
<tr><td colspan="4" align="center">Module Information
معلومات المادة الدراسية</td></tr>
<tr><td>Module Title</td><td colspan="2">Laboratory Medical Instrumentation I</td><td>Module Delivery</td></tr>
<tr><td>Module Type</td><td colspan="2">Core</td><td rowspan="4">☒ Theory
☐ Lecture
☒ Lab
☐ Tutorial
☒ Practical
☒ Seminar</td></tr>
<tr><td>Module Code</td><td colspan="2">MIET2101</td></tr>
<tr><td>ECTS Credits</td><td colspan="2">7</td></tr>
<tr><td>SWL (hr/sem)</td><td colspan="2">175</td></tr>
<tr><td>Module Level</td><td>UGII</td><td>Semester of Delivery</td><td>3</td></tr>
<tr><td>Administering Department</td><td>MIET</td><td>College</td><td>S.I.U.C</td></tr>
<tr><td>Module Leader</td><td></td><td>e-mail</td><td></td></tr>
<tr><td>Module Leader's Acad. Title</td><td></td><td>Module Leader's Qualification</td><td></td></tr>
<tr><td>Module Tutor</td><td>م.د. مها طارق محمد</td><td>e-mail</td><td></td></tr>
<tr><td>Peer Reviewer Name</td><td></td><td>e-mail</td><td></td></tr>
<tr><td>Scientific Committee Approval Date</td><td>8/11/2023</td><td>Version Number</td><td>1.0</td></tr>
</table>

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<tr><td colspan="4" align="center">Relation with other Modules
العلاقة مع المواد الدراسية الاخرى</td></tr>
<tr><td>Prerequisite module</td><td>None</td><td>Semester</td><td></td></tr>
<tr><td>Co-requisites module</td><td>None</td><td>Semester</td><td></td></tr>
</table>

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims أهداف المادة الدراسية	1. The graduate get scientific and applied skills to diagnose the medical instruments faults. 2. The graduated students will gain the ability of knowledge of different parts of medical instruments. 3. Development and training the engineering technical staff on medical device maintenance. 4. Preparation of the research and studies to improve and develop the action of medical devices. 5. Prepare application engineers in technical and electronic engineering. 6. Put the proposals and alternatives for the medical devices.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon completion of the course, students should be able to: 1. Define the Medical instrumentation and recognize what is the laboratory security system and determine the quality control results in the medical laboratory. 2. Classify the medical instrumentation. 3. Describe the hospital design. 4. Design and Describe the operating room. 5. Understand patient safety laws and rules. 6. Define and understand the medical Laboratory Instruments and Tools. 7. Calibration of Medical Laboratory Instruments. 8. Define, explain, and describe Balances and understand the electrical and electronic parts. 9. Explain the types of balances and their medical application. 10. Define, explain, and describe water bath and understand the electrical and electronic parts. 11. Define, explain, and describe wax bath and understand the electrical and electronic parts.

Indicative Contents المحتويات الارشادية	Indicative content includes the following: Medical instrumentation classification, analysis lists, work security rules, and best laboratory use guidelines [14 hr]. Calibration of instruments criteria, types, components, advantages and disadvantages, physical and medical applications. [14hr] Medical instrumentation faults and maintenance, analysis lists, work security rules, and best laboratory use guidelines [14hr]. Patient safety and hospital design rules [15h]. Classification of different types of medical laboratories like medical, biological histological and chemical [13hr].

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

Student Workload (SWL) الحمل الدراسي للطالب محسوبا لـ15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	81	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

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

	Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري
	Material Covered
Week 1	Definition to medical instruments.
Week 2	Introduction to medical instruments.
Week 3	Classification of medical instrumentation.
Week 4	Design of hospitals.
Week 5	Design of operating room.
Week 6	Patient Safety.
Week 7	Mid-term exam
Week 8	Medical Laboratory Instruments and Tools-1
Week 9	Medical Laboratory Instruments and Tools- 2
Week 10	Classification of different medical laboratories
Week 11	Calibration of Medical Laboratory Instruments.
Week 12	Introduction to Balance.

Week 13	Balance and their types.
Week 14	Wax bath. Water bath.
Week 15	The preparatory week before the final exam.

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to medical instruments.
Week 2	Classification of medical instrumentation.
Week 3	Medical Laboratory Instruments and Tools.
Week 4	Patient Safety.
Week 5	Calibration of Medical Laboratory Instruments.
Week 6	Classification of different medical lab.
Week 7	Introduction to Balance.
Week 8	Balance and their types.
Week 9	Wax bath.
Week 10	Water bath.
Week 11	Exam.

<table>
<tr><th colspan="3">Learning and Teaching Resources
مصادر التعلم والتدريس</th></tr>
<tr><th></th><th>Text</th><th>Available in the Library?</th></tr>
<tr><td>Required Texts</td><td>Biomedical device technology ,by ANTHONY Y. K. CHAN, MSc, MEng, PEng, CCE</td><td></td></tr>
<tr><td>Recommended Texts</td><td>Ananthi ,2005,"A text book of medical instruments</td><td></td></tr>
<tr><td>Websites</td><td></td><td></td></tr>
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	Grading Scheme مخطط الدرجات			
Group	Grade	التقدير	Marks (%)	Definition
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Module Information
معلومات المادة الدراسية

Module Title	**Electronic Circuits I**	**Module Delivery**	
Module Type	**Core**	☒ **Theory**	
Module Code	**MIET2102**	☐ **Lecture** ☒ **Lab**	
ECTS Credits	**5**	☒ **Tutorial** ☐ **Practical**	
SWL (hr/sem)	**125**	☐ **Seminar**	

Module Level	UGII	**Semester of Delivery**	3
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.د. علاء حسين احمد	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules
العلاقة مع المواد الدراسية الاخرى

Prerequisite module	Fundamentals of Electrical Engineering (AC) MIET1201	**Semester**	UGI_S2
Co-requisites module	None	**Semester**	

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

Module Aims أهداف المادة الدراسية	1. The graduate gets scientific and applied skills of electronic circuits. 2. The graduated students will gain the ability of knowledge of different parts of electronic circuits. 3. Development and training the engineering technical staffs on the electronic circuits. 4. Preparation the research and studies to improve and develop the action of electronic circuits. 5. Prepare application engineers in technical and electronic engineering. 6. Put the proposals and alternatives for the electronic devices.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. 2. Become aware of the general characteristics of electronic devices. 3. Be able to describe the difference types of electronic categories. 4. Develop a clear understanding of the basic operation and characteristics of electronic devices. 5. Become familiar with the use of equivalent circuits to analyze series, parallel, and series-parallel electronic networks. 6. Be able to predict the output response of an electronic networks. 7. Become familiar with the analysis of and the range of applications for electronic devices. 8. Become familiar with the basic construction and operation of the various types of electronic categories. 9. Be able to test a various type of electronic terminals. 10. Be able to determine the dc levels for the variety of important electronic circuits. 11. Understand how to measure the important voltage levels of electronic circuits. Begin to understand the troubleshooting process as applied to electronic configurations. 12. Develop a sense for the stability factors of an electronic circuits. 13. Learn to use the equivalent model to find the important ac parameters for an amplifier. 1 4. Develop some skill in troubleshooting ac amplifier networks.

	Indicative content includes the following.
Indicative Contents المحتويات الارشادية	Part A Electronic Theory Semiconductor Materials: Ge, Si, and GaAs 2, Covalent Bonding and Intrinsic Materials, n -Type and p -Type Materials , Semiconductor Diode , Transistor Construction ,Transistor Operation , Construction and Characteristics of JFETs ,Transfer Characteristics, Important Relationships ,Depletion-Type MOSFET Enhancement-Type MOSFET [10 hrs] Diode Applications -Load-Line Analysis, Series Diode Configurations, Parallel and Series–Parallel Configurations, Sinusoidal Inputs; Half-Wave Rectification Full-Wave Rectification , Clippers , Clampers Networks with a dc and ac Source, Zener Diodes , Voltage-Multiplier Circuits [12 hrs] Revision problem classes [6 hrs] Part B - DC Electronic Circuits BJT Transistor - Operating Point, dc bias configurations of a BJT transistor, Miscellaneous Bias Configurations of a BJT transistor 4.11 Design Operations of a BJT transistor, Multiple BJT Networks, Current Mirrors. [13 hrs] FET Transistor - biasing arrangements for the n and p channel JFET, 7.7 DepletionType MOSFETs, Enhancement-Type MOSFETs, Combination Networks, Universal JFET Bias, Practical Applications. [10 hrs] Part C - AC Electronic Circuits BJT Transistor - Amplification in the AC Domain, BJT Transistor Modeling, the r_e Transistor Model, Effect of RL and Rs, Determining the Current Gain, Cascaded Systems, Darlington Connection, Feedback Pair, The Hybrid Equivalent Model. [17 hrs]

Learning and Teaching Strategies

استراجيات التعلم والتعليم

Strategies	The main strategy will be encourage active participation and engagement of students through activities such as group discussions, hands-on experiments, problem-solving tasks, and case studies. This approach promotes critical thinking, collaboration, and knowledge application and encourages students to explore and discover knowledge through inquiry and investigation. Pose open-ended questions or problem scenarios that require learners to research, analyze, and draw conclusions independently.

Student Workload (SWL)

الحمل الدراسي للطالب محسوبا ل15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	46	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	16% (16)	5,10	LO #1,2,10 and 11
	Assignments	2	8% (8)	2,12	LO # 3,4 ,6,7 and 14
	Projects / Lab.	1	8% (8)	continuous	
	Report	1	8% (8)	13	LO # 5,8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1,2,5,9,10 and 13
	Final Exam	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction -
Week 2	Semiconductors materials
Week 3	Diode Configurations
Week 4	Diode Networks with a dc and ac Source
Week 5	Zener Diodes
Week 6	Bipolar junction transistor
Week 7	Mid-term Exam
Week 8	DC biasing BJTs
Week 9	Multiple BJT Networks
Week 10	Field effect transistor and MOSFET
Week 11	Depletion-Type MOSFET
Week 12	Enhancement type MOSFET
Week 13	BJT AC Analysis
Week 14	BJT Transistor Modeling and Effect of RL and Rs
Week 15	**Preparatory week before final exam**

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1: Diode characteristics
Week 2	Lab 2: Half – wave Rectifier
Week 3	Lab 3: full wave Rectifier
Week 4	Lab 4: Filter for Halve – wave and full wave Rectifiers
Week 5	Lab 5: Voltage Doubler
Week 6	Lab 6: Voltage Tripler

Week 7	Lab 7: Positive Series Clipper
Week 8	Lab 8: Negative Series Clipper
Week 9	Lab 9: positive parallel Clipper
Week 10	Lab 10: Negative parallel Clipper
Week 11	Lab 11: Clamper
Week 12	Lab12: Zener Diode
Week 13	Lab13: Fixed Vi , Variable RL Zener Diode
Week 14	Lab14: Fixed RL , Variable Vi Zener Diode

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Electronic devices and circuit theory 11th edition, Robert L. Boylestad , Louis Nashelsky	Yes
Recommended Texts		No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electricalengineering	

Grading Scheme مخطط الدرجات

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

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

<div dir="rtl">

نموذج وصف المقرر الدراسي

مكائن كهربائية

</div>

Module Information

<div dir="rtl">معلومات المادة الدراسية</div>

Module Title	Electrical Machines	**Module Delivery**	
Module Type	Core	☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	MIET2103		
ECTS Credits	5		
SWL (hr/sem)	125		

Module Level	UGII	**Semester of Delivery**	3
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.م علي قاسم عبد الرسول	**e-mail**	E-mail
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules

<div dir="rtl">العلاقة مع المواد الدراسية الاخرى</div>

Prerequisite module	Fundamentals of Electrical Engineering (AC)	**Semester**	UGI-S2
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims أهداف المادة الدراسية	1- Study engineering concepts and their applications for electrical machines and transformers. 2- How electrical transformers work, how to connect them, and solve mathematical problems related to them and their types. 3- What are electrical machines and what are their classifications. 4- Knowledge and understanding of the basics of laws related to electrical technology materials. 5- Solve issues and issues and apply the rules of application related to electrical engineering. 6- Giving students confidence and ability to use mathematical foundations in applications on generators, electric motors. 7- Building interactive skills that help classify information and make engineering decisions. 8- Develop proposals and alternatives for electrical parts for medical devices
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Learn how transformers work in electrical circuits. 2. List the various terms associated with electrical circuits and machines. 3. Summarize what is meant by electrical transformers and basic electrical machines of all kinds. 4. Discuss the interaction and participation of the number of windings, wire diameter and size of electrical transformers. 5. Description of electrical transformers, motors and generators with direct current and alternating current. 6. Determine the laws related to electrical transformers and their derivations. 7. Identify the equivalent circuits of electrical transformers and methods of calculating their efficiency. 8. Discuss the processes that lead to losses in transformers and electrical machines, and ways to reduce them and increase their efficiency. 9. Discuss the different characteristics of engines and generators, their main components, and the functioning of each. 10. Explain the two laws of machines and determine their efficiency, capacity and torque, and the laws of their formation. 11. Identify the relationship of transformers and electrical machines to medical devices. 12. Discuss the systems of connecting machines, ways of wrapping coils inside them, and the benefits of each. 13. Determining how to increase the efficiency of motors used in medical devices and methods of maintaining and repairing them. 14. Describe the types of motors included in the formation of medical devices and their classification

Indicative Contents المحتويات الارشادية	Indicative content includes the following. Part A - Single-phase electrical transformers Types of electrical transformers, their parts and components, their equivalent circuit, types of losses, how to calculate them, and how to calculate transformer efficiency through mathematical operations and efficiency laws. [10 hours] Part B - Three-phase electrical transformers Types of three-phase electrical transformers, calculating their cost, types of connections in their files, calculating their equivalent circuits, and deriving special laws for each connection [13 hours] Part C- Electromagnetic and electromechanical induction and the relationship between them and linear motion using those concepts and applications on linear motion and how to generate it. [10 hours] Part D- The electromotive force of single-phase machines, methods of generating them, their laws, and their calculation through mathematical issues and calculating currents, voltages, losses, and capacity. [10 hours] Part E- The electromotive force of the three-phase machines, methods of generating them, their laws, and their calculation through mathematical problems, types of coil connections, testing those machines, and calculating currents, voltages, losses, and real and apparent power. [15 hours] Instantaneous power and average power of alternating current, relative and apparent power. Types of electric motors and how they work [5 hours] Review problem categories [6 hours]

Learning and Teaching Strategies
استراجيات التعلم والتعليم

Strategies	The main strategy that will be adopted in the delivery of this unit is to encourage students to participate in the exercises, while improving and expanding their critical thinking skills at the same time. This will be achieved through classes and interactive tutorials and by looking at the types of simple experiments that include some of the electrical wiring activities in the laboratory curriculum that develop students' skills.

Student Workload (SWL)
الحمل الدراسي للطالب محسوبا ل15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	46	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	% (10)	5,12	1-3 , 4-10
	Assignments	4	% (10)	4,6,8,12	
	Projects / Lab.	1	% (15)	14	2-3, 4-5, 6-7, 8-11
					1-12
					1-2, 3-4, 5-6, 7-8, 9-10
	Report	5	% (5)	3,5,7,9,11	
Summative assessment	Midterm Exam	2 hr	10% (10)	7	1-5
	Final Exam	4 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

<table>
<tr><td colspan="2" align="center">**Delivery Plan (Weekly Syllabus)**
المنهاج الاسبوعي النظري</td></tr>
<tr><td></td><td>**Material Covered**</td></tr>
<tr><td>**Week 1**</td><td>Transformers : single phase transformer and construction</td></tr>
<tr><td>**Week 2**</td><td>Transformers : single phase transformer and construction</td></tr>
<tr><td>**Week 3**</td><td>Theory of operation, no load and short circuit test.</td></tr>
<tr><td>**Week 4**</td><td>Equivalent circuit, auto–transformers, instrument transformers</td></tr>
<tr><td>**Week 5**</td><td>Equivalent circuit, auto–transformers, instrument transformers</td></tr>
<tr><td>**Week 6**</td><td>Three phase transformers, constructions methods of connection.</td></tr>
<tr><td>**Week 7**</td><td>Mid exam + Three phase transformers, constructions methods of connection.</td></tr>
<tr><td>**Week 8**</td><td>Electromechanical energy conversion principles relay operation.</td></tr>
<tr><td>**Week 9**</td><td>Electromechanical energy conversion principles relay operation.</td></tr>
<tr><td>**Week 10**</td><td>Motor characteristics, testing, calculation of losses and efficiency.</td></tr>
<tr><td>**Week 11**</td><td>Induction machines: equivalent circuit, basic equation, simple analysis testing.</td></tr>
<tr><td>**Week 12**</td><td>Single phase induction motor, methods of starting, siplitphase, capacitor short, capacitor run and shaded pole motors.</td></tr>
<tr><td>**Week 13**</td><td>Single phase induction motor, methods of starting, siplitphase, capacitor short, capacitor run and shaded pole motors.</td></tr>
<tr><td>**Week 14**</td><td>Synchronous machines, generators and motors, equivalent circuit, basic equation.

Special machines: Reluctance motor , hysteresis motor , linear motor , stepper motor , dray cup type m motor , etc ……..</td></tr>
<tr><td>**Week 15**</td><td>Preparatory week before final exam</td></tr>
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<table>
<tr><td colspan="2" align="center">**Delivery Plan (Weekly Lab. Syllabus)**
المنهاج الاسبوعي للمختبر</td></tr>
<tr><td></td><td>**Material Covered**</td></tr>
<tr><td>**Week 1**</td><td>Introduction to measuring devices and identifying wattmeter</td></tr>
<tr><td>**Week 2**</td><td>Characteristics of single-phase electric transformers</td></tr>
<tr><td>**Week 3**</td><td>Open circuit test of transformers</td></tr>
<tr><td>**Week 4**</td><td>Load circuit for single phase transformers</td></tr>
<tr><td>**Week 5**</td><td>Three phase transfer theorem delta- delta</td></tr>
</table>

Week 6	Three phase transfer theorem delta- star
Week 7	Three phase transfer theorem star- delta
Week 8	Three phase transfer theorem star- star
Week 9	Characteristics of DC machine
Week 10	load test of three phases (I.M)
Week 11	open circuit test of three phases (I.M)
Week 12	short circuit test of three phases (I.M)
Week 13	Speed control of DC motor + load test of DC generator
Week 14	Series & Shunt DC machine connection. Compound connection of DC machine.
Week 15	Preparatory week before final exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Electrical Machines and Drives Fundamentals and Advanced Modelling by Jan A. Melkebeek	Yes
Recommended Texts	Electrical Machines Drives and Power Systems 5th Edition By Theodore Wildi	No
Websites		

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

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

نموذج وصف المقرر الدراسي

الرياضيات الهندسية

Module Information		
معلومات المادة الدراسية		
Module Title	Engineering Mathematics	**Module Delivery**
Module Type	Support	☒ **Theory**
Module Code	MIET2104	☐ **Lecture** ☐ **Lab**
ECTS Credits	**4**	☒ **Tutorial**
SWL (hr/sem)	**011**	☐ **Practical** ☐ **Seminar**

Module Level	UGII	**Semester of Delivery**	3
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م. جاسم حافظ محمد	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الاخرى			
Prerequisite module	Integral Mathematics-MIET1204	**Semester**	UGI-S2
Co-requisites module	None	**Semester**	

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

Module Objectives أهداف المادة الدراسية	1. The goal of this module is to give students the necessary mathematical skills and tools to solve a range of design engineering issues. 2. Demonstrate basic knowledge and understanding of a core of vector analysis, linear algebra and applied mathematics. 3. Introduce student to Infinite and power series. 4. Understand how to solve Differential equations of the 1st and nth order. 5. Introduce student to Integral Transforms: Fourier series and Laplace transform and their applications in signal and systems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Define a vector, represent a vector by a directed straight line, add vectors, write a vector in terms of component vectors, write a vector in terms of component unit vectors, set up a coordinate system for representing vectors, and obtain the direction of a vector. 2. Explain the concept of a vector field and make sketches of simple vector fields 3. in the plane 4. Memorize algebraic definitions and explain geometric meanings of dot and cross products 5. Compute dot and cross products given either algebraic or geometric information. 6. Apply dot or cross product to determine angles between vectors, scalar and vector projections, and volumes of parallelipipeds. 7. Memorize change of coordinate formulae between rectangular and cylindrical coordinate systems. 8. Memorize change of coordinate formulae between rectangular and spherical coordinate systems. 9. Identify coordinate surfaces in cylindrical and spherical coordinate systems as well as Converting equations between rectangular, cylindrical and spherical coordinate systems. 10. know what is meant by infinite series & its convergence, 11. Learn formation of Differential Equations - solutions of first order Differential Equations: Homogeneous-Non-homogeneous - Exact – Non-exact and solutions of nth order Differential Equations as well. 12. Definition of Laplace and Fourier transforms, Condition for existence, Laplace transform of standard functions, Properties of Laplace transform,

	13. Application of Laplace and Fourier transforms to ordinary differential equations.
Indicative Contents المحتويات الارشادية	Indicative content includes the following. Vector analysis,Vector fields,Orthogonal vectors and Dot Product, Parallel vectors and Cross Product, in addition to Partial Derivatives: Formulas for Del operation. [25 hrs] Polar Coordinates,Cylindrical Coordinates Systems, Spherical Coordinates Systems, and Infinite series.Power series. [23 hrs] Convergence and divergence series, Differential equation of the first order, Differential equation of *nth* order.Integral Transforms: Fourier series and Laplace transform.[25 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
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.

Student Workload (SWL) الحمل الدراسي للطالب محسوبا لـ15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**	100		

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Module Evaluation تقييم المادة الدراسية					

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	5% (10)	4 and 10	LO #1- #4 and #5 - #9
	Online assignments	2	5% (10)	3 and 6	LO #1- #4 and #5 - #8
	Report	1	10% (10)	14	LO #1- #6 and #7 - #12
	OnSite assignment	2	5% (10)	5 and 14	LO #1- #5 and #6- #12
Summative assessment	Midterm Exam	2hr	10% (10)	7	LO #1 - #8
	Final Exam	3hr	50% (50)	16	LO #1- #12
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	

	Material Covered
Week 1	Vector analysis.
Week 2	Vector fields.
Week 3	Orthogonal vectors and Dot Product.
Week 4	Parallel vectors and Cross Product.
Week 5	Partial Derivatives: Formulas for Del operation.
Week 6	Polar Coordinates.
Week 7	**Mid-term Exam** + Cylindrical Coordinates Systems.
Week 8	Spherical Coordinates Systems.
Week 9	Infinite series.
Week 10	Power series.
Week 11	Convergence and divergence series.
Week 12	Differential equations.
Week 13	Differential equation of the first order.

Week 14	Differential equation of *nth* order.
Week 15	Integral Transforms: Fourier series and Laplace transform.
Week 16	**Preparatory week before the final Exam.**

<table>
<tr><td colspan="3" align="center">**Learning and Teaching Resources**
مصادر التعلم والتدريس</td></tr>
<tr><td></td><td align="center">**Text**</td><td align="center">**Available in the Library?**</td></tr>
<tr><td>**Required Texts**</td><td>https://dokumen.tips/download/link/engineeringmathematics-5th-ed-by-k-a-stroud.html   (**pdf**)</td><td align="center">No</td></tr>
<tr><td>**Recommended Texts**</td><td>https://www.bau.edu.jo/UserPortal/UserProfile/PostsAttach/59003_3812_1.pdf</td><td align="center">No</td></tr>
<tr><td>**Websites**</td><td>https://dokumen.tips/download/link/engineering-mathematics-5th-ed-by-k-a-stroud.html</td><td></td></tr>
</table>

<table>
<tr><td colspan="5" align="center">**Grading Scheme** مخطط الدرجات</td></tr>
<tr><td>**Group**</td><td>**Grade**</td><td>التقدير</td><td>**Marks (%)**</td><td>**Definition**</td></tr>
<tr><td rowspan="5">**Success Group (50 - 100)**</td><td>**A -** Excellent</td><td>امتياز</td><td>90 - 100</td><td>Outstanding Performance</td></tr>
<tr><td>**B -** Very Good</td><td>جيد جدا</td><td>80 - 89</td><td>Above average with some errors</td></tr>
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<tr><td rowspan="2">**Fail Group (0 – 49)**</td><td>**FX –** Fail</td><td>راسب(قيد المعالجة)</td><td>(45-49)</td><td>More work required but credit awarded</td></tr>
<tr><td>**F –** Fail</td><td>راسب</td><td>(0-44)</td><td>Considerable amount of work required</td></tr>
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</table>

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

نموذج وصف المقرر الدراسي

علم التشريح وعلم وظائف الأعضاء

Module Information معلومات المادة الدراسية			

Module Title	**Anatomy & Physiology**	**Module Delivery**	
Module Type	**Support or related learning activities**	☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** **Seminar**	
Module Code	**MIET2105**		
ECTS Credits	**4**		
SWL (hr/sem)	**100**		
Module Level	UGII	**Semester of Delivery**	3
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.م. واثق قتيبة شاكر	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite module	None	**Semester**	None
Co-requisites module		**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims أهداف المادة الدراسية	1-Anatomy and Physiology are important medical discipline to understand structures and functions of human body cells, tissues, organs, organ systems, and as a whole system, how it works and the relationships between body parts. 2- This mode unit consists of main elements of anatomy and physiology, the terminology used, and how our body control itself. 3- Students will be able to understand how medical device work with the human body and what the benefit from it. 4- To understand the level of organization of the human organism and the homeostatic system. 5- To understand the chemical structure, chemical reactions and their control with acid-base balance in human body.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Demonstrate correct usage of the terminology used to describe anatomical structures. 2. Describe the organization of cells and tissues. 3. Describe the principles relating to the structure of connective tissues, skeletal muscle, bones, and joints. 4. Describe the principles of excitable tissues. 5. Describe the structure and function of the human eye and ear and the mechanisms of vision and hearing. 6. Describe the principles of sensorimotor control. 7. Describe cardiac mechanics and cardiac biophysics. 8. Develop quantitative descriptions of physiological properties and systems. 9. Describe the application of technologies and techniques for investigating the structure and function of the body. 10. Demonstrate communication skills (oral and written) to describe the structure and function of the human body. 11. Describe basic structural and functional features of the major organ systems within the human body. 12. Define basic biological processes essential for maintenance of homeostasis. 13. Correlate specific structural features of human cells, tissues, organs and systems of the human body with their normal functions, and identify the changes that occur during human development, ageing

	and disease.
Indicative Contents المحتويات الارشادية	Topics include: • Anatomical terminology (5 hrs). • The structure and appearance of cells and tissues (6 hrs). • The appearance of bone and cartilage, the organization of dense connective tissues (6 hrs). • Skeletal muscle structure and function. Principles of excitable tissues. [15 hr] • The structure and function of sensory systems, including the eye and vision and the ear and hearing. • Principles of sensory motor control. Cardiac mechanics and cardiac biophysics.[10 hr] • Multiscale modelling of physiological systems (6 hrs). • Technologies, quantitative measurements and experimental techniques used to investigate the structure and function of different tissues, organs and organ systems. [15 hr]

Learning and Teaching Strategies استراجيات التعلم والتعليم	
Strategies	The learning and teaching strategies employed in this module can vary depending on the specific course. However, here are some common strategies that may be used with this course: **Teaching methods include:** • lectures • seminars • tutorials • lab experiments ☐ design assignments. • industrial visits • professional training • a variety of projects **Assessment :** methods of assessment include a combination of: • coursework • group project reports ☐ lab reports • written exams.

<table>
<tr><td colspan="4" align="center">**Student Workload (SWL)**
الحمل الدراسي للطالب محسوبا ل15 اسبوعا</td></tr>
<tr><td>**Structured SWL (h/sem)**
الحمل الدراسي المنتظم للطالب خلال الفصل</td><td align="center">64</td><td>**Structured SWL (h/w)**
الحمل الدراسي المنتظم للطالب أسبوعيا</td><td align="center">4</td></tr>
<tr><td>**Unstructured SWL (h/sem)**
الحمل الدراسي غير المنتظم للطالب خلال الفصل</td><td align="center">36</td><td>**Unstructured SWL (h/w)**
الحمل الدراسي غير المنتظم للطالب أسبوعيا</td><td align="center">2</td></tr>
<tr><td>**Total SWL (h/sem)**
الحمل الدراسي الكلي للطالب خلال الفصل</td><td colspan="3" align="center">100</td></tr>
</table>

Module Evaluation تقييم المادة الدراسية					

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	4	20%	2,4,6, 8, 10, 12	LO : 1,2,3……..14
	Assignments	2	5%	7, 10	LO : 6, 13
	Projects / Lab.	2	5%	5, 9	LO : 1-5, 6-9
	Report	1	10%	11	LO : 1,2,3 ………12
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO : 1-7
	Final Exam	4 hr	50 % (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to Anatomy and Physiology.
Week 2	The Chemical level of Organization.
Week 3	The Cell level of Organization
Week 4	The Tissue level of organization
Week 5	The Integumentary system
Week 6	The Muscular system
Week 7	Mid Exam

Week 8	The Skeletal System
Week 9	The Central Nervous System
Week 10	The Peripheral Nervous System and Autonomic Nervous System.
Week 11	The Sense and Sensory System.
Week 12	The Endocrine System.
Week 13	The Cardiovascular System: The Heart, Blood Vessels And Blood.
Week 14	The Respiratory System. The Urinary System.
Week 15	**Preparatory week before final exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Lab 1 measurement of body temperature
Week 2	Lab 2 Coagulation
Week 3	Lab 3 The blood
Week 4	Lab 4 Membrane transport
Week 5	Lab 5 Complete blood count
Week 6	Lab 6 Hemoglobin (Hb) Determination
Week 7	Lab 7 Erythrocyte Sedimentation Rate ESR
Week 8	Lab 8 Total leucocyte count
Week 9	Lab 9 Total Red Blood Cell R B C count
Week 10	Lab 10 Platelets count
Week 11	Lab 11 Blood film
Week 12	Lab 12 Blood group
Week 13	Lab 13 Blood sugar
Week 14	Lab 14 Blood urea & Blood pressure

Learning and Teaching Resources		
مصادرالتعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Frederic H Martini, Edwin F Bartholomew, William C. Ober, Claire W. Garrison, Kathleen Welch, & Ralf T Hutchings (2007), *Essentials of Anatomy and Physiology*, 14th edn, Pearson Education, San Francesco, USA.	No
Recommended Texts	1- **Human Physiology Study Guide** 2- **Human Anatomy & Physiology: Help and Review**	
Websites	Interactive physiology, Copyright © 2005 Pearson Education, Inc. publishing as Benjamin	

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

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

Module Information معلومات المادة الدراسية			
Module Title	The crimes of the Ba'ath regime in Iraq	**Module Delivery**	
Module Type	Basic	☒ Theory	
Module Code	MTU1007	☐ Lecture	
ECTS Credits	2	☐ Lab	
SWL (hr/sem)	50	☐ Tutorial	
		☐ Practical	
		☐ Seminar	

Module Level	2	**Semester of Delivery**	3
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.م. انصاف جاسم علوان	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

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
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية

Module Aims **أهداف المادة الدراسية**	يهدف هذا المقرر الدراسي إلى تعزيز فهم الطلاب للجرائم والانتهاكات التي وقعت خلال فترة نظام البعث في العراق وتأثيرها على الأفراد والمجتمع، وتشجيع التحليل والنقاش حول هذه القضايا المهمة. ومن ابرز الأهداف للمادة الدراسية هي اني يكون الطالب قادراً على أن: ١. فهم مفهوم الجرائم وأقسامها. ٢. دراسة جرائم نظام البعث والقوانين المتعلقة بها. ٣. التعرف على الجرائم النفسية والاجتماعية وآثارها على الفرد والمجتمع. ٤. تحليل الانتهاكات القانونية في العراق، بما في ذلك الانتهاكات لحقوق الإنسان والجرائم ذات الصلة. ٥. فهم الجرائم البيئية وآثارها، بما في ذلك التلوث وتدمير المدن والقرى وتجفيف الأهوار. ٦. دراسة جرائم المقابر الجماعية وفهم أحداث المقابر والتصنيف الزمني لها في العراق.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	مخرجات التعلم للمادة الدراسية هي: ١. فهم مفهوم الجرائم وقدرة الطلاب على تصنيف الجرائم وفقًا لأقسامها. ٢. تحليل جرائم نظام البعث وفهم القوانين المتعلقة بها، بما في ذلك الجرائم الدولية. ٣. القدرة على التعرف على الجرائم النفسية لنظام البعث وفهم الآثار النفسية لجرائم نظام البعث على الأفراد والمجتمع. ٤. القدرة على التعرف على الجرائم الاجتماعية لنظام البعث الآثار الاجتماعية لجرائم نظام البعث على الأفراد والمجتمع. التعرف على الانتهاكات القانونية لنظام البعث في العراق وفهم أنواع الانتهاكات ومكان احتجاز الأفراد. ٦. التعرف على صور انتهاكات حقوق الإنسان وجرائم السلطة التي وقعت خلال فترة نظام البعث ٧. التعرف على الانتهاكات السياسية والعسكرية لنظام البعث ٨. فهم الجرائم البيئية لنظام البعث والقدرة على تحليل تأثيرها على البيئة والمجتمع. ٩. دراسة جرائم المقابر الجماعية لنظام البعث ١٠. فهم الأحداث المرتبطة بجرائم المقابر الجماعية وتصنيفها زمنيًا.
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: ١. تعريف الجريمة لغة واصطلاحا، مفهوم الجريمة، اقسام الجريمة ٢. جرائم نظام البعث وفق توثيق قانون المحكمة الجنائية العراقية العليا عام 2005 ٣. الجرائم النفسية والاجتماعية وأثارها ٤. عسكرة المجتمع، موقف النظام البعثي من الدين انتهاكات القوانين العراقية، صور انتهاكات حقوق الإنسان وجرائم السلطة بعض قرارات الانتهاكات السياسية والعسكرية لنظام البعث ٧. أماكن السجون والاحتجاز لنظام البعث ٨. الجرائم البيئية لنظام البعث في العراق ٩. جرائم المقابر الجماعية ١٠. أحداث مقابر الإبادة الجماعية المرتكبة من النظام البعثي في العراق

	١١ .التصنيف الزمني لمقابر الإبادة الجماعية في العراق للمدة 1963م - 2003م

Learning and Teaching Strategies	
	استراجيات التعلم والتعليم
Strategies	استراتيجيات التعلم والتعليم المستخدمة في مادة جرائم حزب البعث البائد تشمل مجموعة متنوعة من النهج والتقنيات التي تعزز عملية التعلم للطلاب. من بين هذه الاستراتيجيات: ١ .التفاعل النشط: يتم تشجيع الطلاب على المشاركة والمشاركة الفعالة في الدروس من خلال المناقشات الجماعية والأنشطة التفاعلية. ٢ .التعلم التعاوني: يشجع التعاون والتعاون بين الطلاب من خلال العمل الجماعي والمشاريع الجماعية، حيث يتعاون الطلاب مع بعضهم البعض لتحقيق أهداف التعلم المحددة. ٣ .استخدام التقنيات الحديثة: يستفيد الطلاب من استخدام التكنولوجيا في عملية التعلم، مثل استخدام الحواسيب والإنترنت للبحث والتعلم الذاتي. ٤ .توفير ردود فعل فورية: يتم توفير ردود فعل فورية وتقييم مستمر للطلاب، سواء عن طريق التقييمات الشفهية أو الكتابية، مما يساعدهم على تحسين أدائهم وتطوير مهاراتهم. ٥ .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 للطلاب.

Student Workload (SWL)			
الحمل الدراسي للطالب محسوبا لـ15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
الأسبوع الأول	تعريف الجريمة لغة واصطلاحا، مفهوم الجريمة، اقسام الجريمة
الأسبوع الثاني	جرائم نظام البعث وفق توثيق قانون المحكمة الجنائية العراقية العليا عام 2005
الاسبوع الثالث الأسبوع الرابع	الجرائم النفسية لنظام البعث وفهم الآثار النفسية لجرائم نظام البعث على الأفراد والمجتمع. الجرائم الاجتماعية لنظام البعث وفهم الآثار الاجتماعية لجرائم نظام البعث على الأفراد والمجتمع.
الأسبوع الخامس	انتهاكات القوانين العراقية
الأسبوع السادس	بعض قرارات الانتهاكات السياسية والعسكرية لنظام البعث
الأسبوع السابع	امتحان نصف الفصل
الأسبوع الثامن	الجرائم البيئية لنظام البعث في العراق (التلوث الحربي وسياسة الأرض المحروقة)
الأسبوع التاسع والعاشر	تجفيف الاهوار و تجريف بساتين النخيل والأشجار والمزروعات
الاسبوع الحادي عشر والاسبوع الثاني عشر	جرائم المقابر الجماعة واحداث مقابر الإبادة الجماعية المرتكبة من النظام البعث في العراق
الأسبوع الثالث عشر والرابع عشرو الخامس عشر	التصنيف الزمني لمقابر الإبادة الجماعية في العراق للمدة من (1963-2003) م
الأسبوع السادس عشر	التهيئة للامتحان النهائي

Module Evaluation					
تقييم المادة الدراسية					
		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	% (10)	5,9	LO #1,2,3, LO # 6,7
	Assignments	2	% (10)	6,13	LO # 4 and LO# 9
	Seminar	1	% (10)	12	LO# 5,6,7,8
	Report	1	% (10)	14	LO # 8,9,10
Summative assessment	Midterm Exam	2 hours	10% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

<table>
<tr><td colspan="3" align="center">**Learning and Teaching Resources**

مصادر التعلم والتدريس</td></tr>
<tr><td></td><td align="center">**Text**</td><td>**Available in the Library?**</td></tr>
<tr><td>**Required Texts**</td><td>منهاج وزارة التعليم العالي والبحث العلمي العرالية ـ جرائم نظام البعث في العراق 2023</td><td align="center">Yes</td></tr>
<tr><td>**Recommended Texts**</td><td></td><td align="center">No</td></tr>
<tr><td>**Websites**</td><td>The Collage E-Library</td><td></td></tr>
</table>

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

Grading Scheme مخطط الدرجات is the title row of the above table.

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

نموذج وصف المقرر الدراسي

تطبيقات الحاسوب

Module Information			
معلومات المادة الدراسية			
Module Title	**Computer Application**	**Module Delivery**	
Module Type	**Basic**	⊠ Theory	
Module Code	**MTU1005**	☐ Lecture ⊠ Lab	
ECTS Credits	**3**	☐ Tutorial ☐ Practical	
SWL (hr/sem)	**75**	☐ Seminar	
Module Level	1 2	**Semester of Delivery**	3
Administering Department	ENG - STE	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**e-mail**	
Peer Reviewer Name	Ahmed J. Abid	**e-mail**	dr.ahmedjabbar@mtu.edu.iq
Scientific Committee Approval Date	20/10/2024	**Version Number**	2.0

Relation with other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

	Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. module aims to: Security and Networking: • Understand the basic concepts and components of computer networks. • Gain knowledge of network security principles and threats. 2. • Develop skills in network troubleshooting and problem-solving. E-Commerce: • Familiarize with the concepts and services of electronic banking. • Understand the different modes of online banking, such as ATM, debit cards, phone banking, SMS banking, and mobile banking. 3. Computer Troubleshooting: • Develop the ability to identify and solve common hardware and software issues faced by computer users. • Learn basic troubleshooting techniques and tools for diagnosing and resolving computer problems. 4. Introduction to AI: • Understand the definition and history of artificial intelligence. • Explore the various AI techniques and approaches. • Recognize the challenges and ethical considerations in AI.	
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Security and Networking: • Understand the basic concepts of computer networks and their components • Gain knowledge of network security principles and be able to identify network threats • Develop troubleshooting skills to diagnose and resolve network issues 2. E-Commerce: Comprehend the concepts and services of electronic banking, including online banking, ATM, debit cards, phone banking, SMS banking, and mobile 3. banking Computer Troubleshooting: • Ability to identify and solve common hardware and software problems encountered by computer users • Demonstrate proficiency in using basic troubleshooting techniques and tools 4. Introduction to AI: • Define and explain the concept of artificial intelligence • Understand the history and evolution of AI • Explore various AI techniques and approaches • Recognize the challenges and ethical considerations in AI development and deployment 5. AI in Our Daily Lives: Understand the applications of AI in smartphones and virtual assistants 6. Applications of AI: Identify and analyze the use of AI in various domains, such as education, healthcare, finance, transportation, marketing, and advertising 7. AI and Society: • Examine the social, international, and future implications of AI • Understand how AI affects human society and the future of humanity 8. Ethical Challenges in AI: Identify and discuss the ethical considerations in AI, including privacy, surveillance, and the impact on the job market 9. The Future of AI: Explore future trends and emerging technologies in the field of artificial intelligence.	

Indicative
 	
Contents المحتويات الإرشادية
	The indicative contents for the Computer Application module may include:
	1. Security and Networking: [4 hrs.]
	    • What is a network?
	    • Types of networks.
	    • Basic network components.
	    • Network security basics.
	    • Understanding network threats.
	    • Network troubleshooting.
	2. E-Commerce: [4 hrs.]
	    • Concepts of electronic banking services.
	    • Online banking.
	    • ATM and debit card services.
	    • Phone banking.
	    • SMS banking.
	    • Electronic alert.
	    • Mobile banking.
	3. Computer Troubleshooting: [4 hrs.]
	    • Identifying and solving common hardware and software problems that computer users encounter.
	    • Basic troubleshooting techniques and tools for diagnosing and resolving issues.
	4. Introduction to AI: [4 hrs.]
	    • Definition of AI.
	    • History of AI.
	    • AI techniques and approaches.
	    • Challenges and ethical considerations in AI.
	5. AI in Our Daily Lives: [4 hrs.]
	    • AI in smartphones and virtual assistants like Siri or Google Assistant.
	6. Applications of AI: [4 hrs.] • Education.
	    • Healthcare.
	    • Finance.
	    • Transportation.
	    • Marketing.
	    • Advertising.
	7. AI and Society: [4 hrs.]
	    • How AI affects social, international relations.
	    • AI and the future of humanity.
	8. Ethical Challenges in AI: [4 hrs.]
	    • AI ethics.
	    • Privacy and surveillance.
	    • The impact of AI on the job market.
	9. The Future of AI: [4 hrs.]
	    • Future trends in AI.
	      Recent research and emerging technologies.

Student Workload (SWL)
الحمل الدراسي للطالب محسوبا ل15 اسبوعا

Structured SWL (h/sem)			Structured SWL (h/w)	
الحمل الدراسي المنتظم للطالب خلال الفصل	49		الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem)			Unstructured SWL (h/w)	
الحمل الدراسي غير المنتظم للطالب خلال الفصل	26		الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem)				
الحمل الدراسي الكلي للطالب خلال الفصل	75			

Module Evaluation
تقييم المادة الدراسية

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 10	LO #1, 2, 8 and 9
	Assignments	2	10% (10)	2, 12	LO # 3, 4, 6 and 7
	Projects / Lab.	1	10% (10)	Continuous	All
	Report	1	10% (10)	14	LO # 1-14
Summative assessment	Midterm Exam	2 hours	10% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري

	Material Covered
Week 1	**Security and Networking**: What is a network? Types of networks, basic network components, network security basics, network troubleshooting.
Week 2	**E-Commerce**: Concepts of electronic banking services, including online banking, ATM and debit card services, phone banking, SMS banking, electronic alert, and mobile banking.
Week 3-4	**Computer Troubleshooting**: Identifying and solving common hardware and software problems that computer users encounter, including basic troubleshooting techniques and tools.

Week 5-6	**Introduction to AI:** Definition of AI, history of AI, AI techniques and approaches, challenges and ethical considerations.
Week 7	Review and Mid Exam
Week 8-9	**AI in Our Daily Lives**: AI in smartphones and virtual assistants like Siri or Google Assistant.
Week 10-12	**Applications of AI**: Education, healthcare, finance, transportation, marketing, and advertising.
Week 13	**AI and Society**: How AI affects social, international relations, and the future of humanity.
Week 14	**Ethical Challenges in AI:** AI ethics, privacy, surveillance, and the impact of AI on the job market.
Week 15	**The Future of AI**: Future trends in AI, recent research, and emerging technologies.
Week 16	Preparatory week before the final Exam.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Introduction to Networking - Setting up a basic network using routers and switches - Identifying different types of networks (LAN, WAN, etc.) - Overview of network components (cables, connectors, etc.)
Week 2	Network Security Basics - Implementing basic security measures (firewalls, antivirus) - Conducting a risk assessment for a sample network - Exploring network security tools and software
Week 3	E-Commerce Services - Simulating online banking transactions - Setting up an ATM simulator - Exploring mobile banking applications
Week 4	Computer Troubleshooting Techniques - Hands-on troubleshooting of common hardware issues - Software troubleshooting exercises using diagnostic tools - Documenting troubleshooting procedures
Week 5	Introduction to AI - Exploring AI development environments (e.g., TensorFlow, PyTorch) - Basic programming exercises in AI (e.g., simple algorithms) - Discussion on the ethical considerations of AI
Week 6	AI in Daily Life - Analyzing the functionality of virtual assistants (Siri, Google Assistant) - Creating simple AI-based applications (chatbots, etc.) - Evaluating user interactions with AI technologies
Week 7	Applications of AI - Case studies on AI applications in healthcare and finance - Developing a simple AI model for a specific application (e.g., predictive analysis) - Group discussions on marketing and advertising with AI

Week 8	AI and Society - Research project on the societal impact of AI technologies - Group presentations on international relations affected by AI - Discussion on the future implications of AI
Week 9	Ethical Challenges in AI - Debating ethical scenarios related to AI applications - Analyzing case studies of AI ethics violations - Discussing privacy issues and surveillance implications
Week 10	The Future of AI - Researching recent advancements in AI technologies - Group projects on emerging technologies in AI - Presentations on future trends and predictions in AI
Week 11	Review and Mid Exam - Review of key concepts and practical skills learned - Mock exam scenarios and feedback sessions - Q&A sessions to clarify any doubts
Week 12-15	Preparatory Week for Final Exam - Comprehensive review of all topics covered in the course - Final project presentations - Discussion on exam strategies and key focus areas

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Banafa A. Introduction to Artificial Intelligence (AI). CRC Press; 2024 May 13.	Yes
Recommended Texts		Yes
Websites	The Collage E-Library	

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

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

وصف المقرر للمرحلة الثانية

الكورس الثاني

نموذج وصف المقرر الدراسي

الاجهزة الطبية المختبرية II

Module Information
معلومات المادة الدراسية

Module Title	Laboratory Medical Instrumentation II	Module Delivery	
Module Type	Core	☒ **Theory**	
Module Code	MIET2201	☐ **Lecture**	
ECTS Credits	7	☒ **Lab**	
		☐ **Tutorial**	
		☒ **Practical**	
SWL (hr/sem)	175	☒ **Seminar**	

Module Level	UGII	**Semester of Delivery**	4
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.د. مها طارق محمد	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules			
العلاقة مع المواد الدراسية الاخرى			
Prerequisite module	Laboratory Medical Instrumentation I	**Semester**	UGII-S3
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims أهداف المادة الدراسية	1. The graduate get scientific and applied skills to diagnosis the medical instruments faults. 2. The graduated students will gain the ability of knowledge of different parts of medical instruments. 3. Development and training the engineering technical staffs on the medical device maintenance. 4. Preparation of the research and studies to improve and develop the action of medical devices. 5. Put the proposals and alternatives for the medical devices. 6. To describe the types of laboratory medical instruments. 7. To explain the principal work of the laboratory medical devices techniques. 8. To understand the maintenance of laboratory medical devices and their electrical and mechanical faults.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon completion of the course, students should be able to: 1. Introduction about the laboratory Design, Rules and limitations. 2. Define, explain, and describe the centrifuge and understand the electrical and electronic parts. 3. Define, explain, and describe Microscope and understand the electrical and electronic parts. 4. List and recognize the types of microscopes. 5. Define, explain, and describe Polymerase chain reaction (PCR). and understand the electrical and electronic parts. 6. Definition of Laboratory incubators and explain their applications. 7. List and understand the types of Laboratory Incubators. 8. Define and explain Oven and its medical application. 9. Define and explain Autoclave and its medical application. 10. Describe and understand water distillation and its application with the medical field. 11. Definition and understanding of the CBC System. 12. Define the principle of CBC Medical system. 13. Faults and maintenance of medical instrumentations

Indicative Contents المحتويات الارشادية	Indicative content includes the following: Medical instrumentation definition, analysis lists, work security rules, and best laboratory use guidelines [14hr]. Laboratory instruments criteria, types, components, advantages and disadvantages, physical and medical application. [12hr]. Medical instrumentation faults and maintenance, analysis lists, work security rules, and best laboratory use guidelines [14 hr]. Explain Polymerase chain reaction (pcr)and definition of Laboratory incubators[14 hr]. Types of Laboratory Incubators and oven and its medical application[14hr]. Autoclave medical application and water distillation[14hr].

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

Student Workload (SWL) الحمل الدراسي للطالب محسوبا ل15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	94	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	6
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	81	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	5
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	175		

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Module Evaluation تقييم انمادة الدراسية					
Formative assessment	**Quizzes**	2	% (1 0)	3,10	LO # 1,2,3.....14 ,
	Assignments	2	% (10)	4,8	LO # 6,13
	Projects / Lab.	1	%(10)	6	LO #3
	Report	2	% (10)	5,9	LO # 7,12
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3hr	50% (50)	14	All
Total assessment			100% (100 Marks)		

	Material Covered
Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week 1	Introduction about the laboratory Design.
Week2	Definition of Centrifuge
Week 3	Applications of Centrifuge
Week 4	Definition of Microscopes.
Week 5	Types of Microscopes.
Week 6	Water distillation
Week7	Mid Term exam
Week 8	Oven and its medical application.
Week 9	Autoclave and its medical application.
Week 10	Definition of Laboratory incubators.
Week 11	Types of Laboratory Incubators.
Week 12	Polymerase chain reaction (PCR).
Week 13	Applications of (PCR)

Week 14	Definition of Complete Blood Counter (CBC) Principle of (CBC)
Week 15	A preparatory week before final exam.

	Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر
	Material Covered
Week 1	Introduction about the laboratory Design
Week 2	Centrifuge
Week 3	Microscopes.
Week 4	Types of Microscopes.
Week 5	Water distillation
Week6	Oven and its medical application.
Week7	Autoclave and its medical application.
Week 8	Laboratory Incubators.
Week 9	Polymerase chain reaction (PCR).
Week10	Complete Blood Counter (CBC)
Week11	Faults and maintenance of medical lab. instruments

	Learning and Teaching Resources مصادر التعلم والتدريس	**Available in the Library?**
	Text	
Required Texts	Biomedical device technology ,by ANTHONY Y. K. CHAN, MSc, MEng, PEng, CCE	
Recommended Texts	Ananthi ,2005,"A text book of medical instruments	
Websites		

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

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

<table>
<tr><td colspan="4">Module Information
معلومات المادة الدراسية</td></tr>
<tr><td>Module Title</td><td>Electronic Circuits II</td><td colspan="2">Module Delivery</td></tr>
<tr><td>Module Type</td><td>Core</td><td colspan="2" rowspan="5">☒ Theory
☐ Lecture
☒ Lab
☒ Tutorial
☐ Practical
☐ Seminar</td></tr>
<tr><td>Module Code</td><td>MIET2202</td></tr>
<tr><td>ECTS Credits</td><td>6</td></tr>
<tr><td>SWL (hr/sem)</td><td>150</td></tr>
<tr><td>Module Level</td><td>UG11</td><td>Semester of Delivery</td><td>4</td></tr>
<tr><td>Administering Department</td><td>MIET</td><td>College</td><td>S.I.U.C</td></tr>
<tr><td>Module Leader</td><td></td><td>e-mail</td><td></td></tr>
<tr><td>Module Leader's Acad. Title</td><td></td><td>Module Leader's Qualification</td><td></td></tr>
<tr><td>Module Tutor</td><td>م.د. علاء حسين احمد</td><td>e-mail</td><td></td></tr>
<tr><td>Peer Reviewer Name</td><td></td><td>e-mail</td><td></td></tr>
<tr><td>Scientific Committee Approval Date</td><td>8/11/2023</td><td>Version Number</td><td>1.0</td></tr>
</table>

<table>
<tr><td colspan="4">Relation with other Modules
العلاقة مع المواد الدراسية الاخرى</td></tr>
<tr><td>Prerequisite module</td><td>Electronics Circuits I-MIET2102</td><td>Semester</td><td>UGII-S3</td></tr>
<tr><td>Co-requisites module</td><td>None</td><td>Semester</td><td></td></tr>
</table>

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية

Module Aims أهداف المادة الدراسية	1. The graduate get scientific and applied skills of electronic circuits 2. The graduated students will gain the ability of knowledge of different parts of electronic circuits. 3. Development and training the engineering technical staffs on the electronic circuits. 4. Preparation the research and studies to improve and develop the action of electronic circuits. 5. Prepare application engineers in technical and electronic engineers. 6. Put the proposals and alternatives for the electronic devices.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Become aware of the general characteristics of electronic devices. 2. Be able to describe the difference types of electronic categories. 3. Develop a clear understanding of the basic operation and characteristics of electronic devices. 4. Become familiar with the use of equivalent circuits to analyze series, parallel, and series-parallel electronic networks. 5. Be able to predict the output response of an electronic networks. 6. Become familiar with the analysis of and the range of applications for electronic devices. 7. Become familiar with the basic construction and operation of the various types of electronic categories! 8. Be able to test a various type of electronic terminals. 9. Be able to determine the dc levels for the variety of important electronic circuits. 10. Understand how to measure the important voltage levels of electronic circuits. 11. Begin to understand the troubleshooting process as applied to electronic configurations. 12. Develop a sense for the stability factors of an electronic circuits. 13. Learn to use the equivalent model to find the important ac parameters for an amplifier. 14. Develop some skill in troubleshooting ac amplifier networks.

	Indicative content includes the following.
	Part A Electronic Theory
	JFETs: n -channel, p -channel, TRANSFER CHARACTERISTICS, Shockley's Equation , Shorthand Method [10 hrs]
	FET Biasing -Fixed-bias configuration, self-bias configuration, voltage-divider bias arrangement; common gate configuration , depletion-type MOSFETs , enhancementtype MOSFET [10 hrs]
	Revision problem classes [6 hrs]
Indicative Contents المحتويات الارشادية	Part B – Frequency response
	Decibels- General Frequency Considerations, Low-Frequency Analysis—Bode Plot, Low-Frequency Response—BJT Amplifier with RL, Low-Frequency Response—FET Amplifier, High-Frequency Response—BJT Amplifier, High-Frequency Response—FET Amplifier [12 hrs]
	Operational Amplifiers - Differential Amplifier Circuit, BiFET, BiMOS, and CMOS Differential Amplifier Circuits, Op-Amp Basics, Practical Op-Amp Circuits, Op-Amp Specifications—DC Offset Parameters. [12 hrs]
	Part C - Power Amplifiers
	Series-Fed Class A Amplifier- Transformer-Coupled Class A Amplifier, Class B Amplifier Operation, Class B Amplifier Circuits, Amplifier Distortion.[10 hrs]
	Power Supplies (Voltage Regulators) [12 hrs]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be encourage active participation and engagement of students through activities such as group discussions, hands-on experiments, problemsolving tasks, and case studies. This approach promotes critical thinking, collaboration, and knowledge application and encourage students to explore and discover knowledge through inquiry and investigation. Pose open-ended questions or problem scenarios that require learners to research, analyze, and draw conclusions independently.

Student Workload (SWL)

الحمل الدراسي للطالب محسوبا ل15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	71	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	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	16% (16)	5,10	LO #1,2,10 and 11
	Assignments	2	8% (8)	2,12	LO # 3,4 ,6,7 and 14
	Projects / Lab.	1	8% (8)	continuous	
	Report	1	8% (8)	13	LO # 5,8 and 10
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1,2,5,9,10 and 13
	Final Exam	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

<table>
<tr><td colspan="2">Delivery Plan (Weekly Syllabus)</td></tr>
<tr><td colspan="2" align="right">المنهاج الاسبوعي النظري</td></tr>
<tr><td></td><td>Material Covered</td></tr>
<tr><td>Week 1</td><td>FET Amplifiers.</td></tr>
<tr><td>Week 2</td><td>JFET Small-Signal Model</td></tr>
<tr><td>Week 3</td><td>General Frequency Considerations</td></tr>
<tr><td>Week 4</td><td>BJT frequency response</td></tr>
<tr><td>Week 5</td><td>JFET frequency response</td></tr>
<tr><td>Week 6</td><td>Power amplifier.</td></tr>
<tr><td>Week 7</td><td>Mid- Exam</td></tr>
<tr><td>Week 8</td><td>Series-Fed Class A Amplifier</td></tr>
<tr><td>Week 9</td><td>Class B,C and D amplifiers</td></tr>
<tr><td>Week 10</td><td>Feedback and Oscillator Circuits</td></tr>
<tr><td>Week 11</td><td>PNPN and Other Devices</td></tr>
<tr><td>Week 12</td><td>Operational amplifier</td></tr>
<tr><td>Week 13</td><td>Operational amplifier applications</td></tr>
<tr><td>Week 14</td><td>Power Supplies
Voltage Regulators</td></tr>
<tr><td>Week 15</td><td>Preparatory week before final exam</td></tr>
</table>

<table>
<tr><td colspan="2">Delivery Plan (Weekly Lab. Syllabus)</td></tr>
<tr><td colspan="2" align="right">المنهاج الاسبوعي للمختبر</td></tr>
<tr><td></td><td>Material Covered</td></tr>
<tr><td>Week 1</td><td>Lab 1: Common emitter transistor characteristics</td></tr>
<tr><td>Week 2</td><td>Lab 2: Common collector transistor</td></tr>
<tr><td>Week 3</td><td>Lab 3: Common emitter amplifier</td></tr>
<tr><td>Week 4</td><td>Lab 4: Transistor biasing (part 1)</td></tr>
<tr><td>Week 5</td><td>Lab 5: Transistor biasing (part 2)</td></tr>
<tr><td>Week 6</td><td>Lab 6: common collector amplifier</td></tr>
<tr><td>Week 7</td><td>Lab 7: Common base amplifier</td></tr>
</table>

Week 8	Lab 8: Collector feedback amplifier circuit
Week 9	Lab 9: Voltage divider biasing circuit
Week 10	Lab 10: Emitter follower
Week 11	Lab 11: JFET characteristics
Week 12	Lab12: JFET amplifier
Week 13	Lab13: operational amplifier (part1)
Week 14	Lab14: operational amplifier (part 2)

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	electronic devices and circuit theory 11th edition, Robert L. Boylestad , Louis Nashelsky	Yes
Recommended Texts		No
Websites	https://www.coursera.org/browse/physical-science-and-engineering/electricalengineering	

Grading Scheme مخطط الدرجات

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

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

Module Information
معلومات المادة الدراسية

Module Title	Digital Electronics	**Module Delivery**	
Module Type	Core		☒ **Theory**
Module Code	MIET2203		☒ **Lecture**
ECTS Credits	5		☒ **Lab**
			☐ **Tutorial**
SWL (hr/sem)	125		☐ **Practical**
			☐ **Seminar**

Module Level	2	**Semester of Delivery**	4
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.م علي قاسم عبد الرسول	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules
العلاقة مع المواد الدراسية الاخرى

Prerequisite module	Electronics Circuits I (MIET2102)	**Semester**	S3
Co-requisites module		**Semester**	

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

Module Aims أهداف المادة الدراسية	1. To learn the basics of logical circuits which are used in computers. 2. To understand how the logical medical instrumentations to work 3. To program the logical medical instrumentations 4. To design the logical medical instrumentations 5. To learn how to use logical tables to perform the logical medical instrumentations 6. TO maintain the logical medical instrumentations 7. To suggest how to build modern the logical medical instrumentations.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	At ending of course, student will: 1-know the numbers systems, and conversion between them. 2-know binary codes. 3-design binary gates, and use Boolean algebra. 4-design and simplify the arithmetic circuits. 5- define Karnaugh maps. 6- know how flip-flops works RS, JK. 7- design flip-flops D, T. 8-define the work principles of counters and its types. 9-know the shift registers and types. 10-principles of decoders. 11-identify the Multiplexers and De-Multiplexers. 12-conversion of analog to digital circuits.
Indicative Contents المحتويات الارشادية	Numbers systems, Binary, Octal, Hexadecimal [4 H]. Codes numbers [4 H]. Arithmetic circuits [10 H]. De Margan's theorems [4 H]. Karnaugh map [8 H]. Flip – Flop: RS, RST, JK, D, FF [8 H]. Asynchronous counter and synchronous [10 H]. Shift registers [10 H]. Multiplexer, De multiplexer [4 H]. Decoder [8 H]. Analog conversion [4 H].

Learning and Teaching Strategies

استراجيات التعلم والتعليم

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

Student Workload (SWL)

الحمل الدراسي للطالب محسوبا ل15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	79	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	46	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	3, 9	LO #1, 2, 4,11 and 12
	Assignments	2	10% (10)	3, 13	LO # 4, 5, 7 and 8
	Projects / Lab.	1	10% (10)	Continuous	
	Report	13	10% (10)	13	LO # 6, 8 and11
Summative assessment	Midterm Exam	2 hr	10% (10)	8	LO # 1-8
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

	Delivery Plan (Weekly Syllabus)
	المنهاج الاسبوعي النظري

	Material Covered
Week 1	Number system: Binary numbers, Octal numbers, Hexadecimal numbers,
Week 2	Binary codes
Week 3	Logic gates, De Margan's theorems, Laws and theorem of Boolean algebra
Week 4	Arithmetic circuit, Simplifying logic circuits:
Week 5	fundamentals products, sum of products, algebraic simplification
Week 6	Truth table to Karnaugh map
Week 7	Flip – Flop: RS, RST, JK, D, FF
Week 8	Counters: Asynchronous counter
Week 9	Counters: synchronous counter
Week 10	Shift registers: Serial in -Serial out shift register Serial in -Parallel out shift register
Week 11	Shift registers: Bidirectional Shift Register
Week 12	Multiplexer and De multiplexer
Week 13	Decoder
Week 14	Digital to Analog converter
Week 15	Final Exam (Practical)
Week 16	Final Exam (Theoritical)

	Delivery Plan (Weekly Lab. Syllabus)
	المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Lab 1: Logic Gates (NOT, AND)
Week 2	Lab 2: Logic Gates (OR, NAND, NOR)
Week 3	Lab 3: Logic Gates (XOR, XNOR)

Week 4	Lab 4: Exercises
Week 5	Lab 5: Universal Gates (NAND, NOR)
Week 6	Lab 6: Flip-Flop
Week 7	Lab 7: Adder (Half and Full Adder)
Week 8	Lab 8: Subtractor (Half and Full Subtractor)
Week 9	Lab 9: Comparator
Week 10	Lab 10: Asynchronous Binary Counter Up
Week 11	Lab 11: Asynchronous Binary Down Counter
Week 12	Lab 12: Asynchronous Binary Decade Counter
Week 13	Lab 13: Asynchronous MOD Counter
Week 14	Lab 14: Asynchronous Binary Counter (count from number to another)

Learning and Teaching Resources		
مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	DIGITAL FUNDAMENTALS / FLOYD	YES
Recommended Texts	Digital Logic Design - 4th Edition	NO
Websites	https://www.udemy.com/course/digital-electronics-logicdesign/?utm_source=adwords&utm_medium=udemyads&utm_campaign=DSA_Catchall_la.EN_cc.ROW&utm_content=deal4584&utm_term=_._ag_88010211481_._ad_535397282061_._kw__._de_c_._dm__._pl__._ti_dsa-52949608673_._li_1007949_._pd__._&matchtype=&gclid=CjwKCAjwp6CkBhB_EiwAlQVyxcuQ427tsVehXbetXE4NUFlekP4rqq-PrCWgQfIucPuo7Mqz8SXRVxoC5asQAvD_BwE	

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

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

Module Information
معلومات المادة الدراسية

Module Title	Clinical Chemistry instrumentation	Module Delivery	
Module Type	Core	☒ Theory	
Module Code	MIET2204	☐ Lecture	
ECTS Credits	5	☒ Lab	
		☐ Tutorial	
SWL (hr/sem)	125	☐ Practical	
		☐ Seminar	

Module Level	UGII	Semester of Delivery	4
Administering Department	MIET	College	S.I.U.C
Module Leader		e-mail	
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	م.م. فاطمه علي عيسى	e-mail	
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	8/11/2023	Version Number	1.0

Relation with other Modules
العلاقة مع المواد الدراسية الاخرى

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

	Module Aims, Learning Outcomes and Indicative Contents
	أهداف المادة الدراسية ونتائج التعلم والمحتويات الارشادية
Module Aims أهداف المادة الدراسية	1.To introduce the clinical chemistry and biochemical mechanism in the human body 2.To describe the types of laboratory medical instruments. 3. To describe the types of clinical chemistry analysis or (tests). 4. To explain the principal work of the laboratory medical devices techniques. 5. To describe the most important compositions in human body. 6. To understanding the maintenance of laboratory medical devices and its electrical and mechanical faults.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon completion of the course, students should be able to: 1.Define the clinical chemistry and recognize what is the laboratory security system and determine the quality control results in medical laboratory. 2. List the principal work of spectrophotometer instruments and derive Beer's- Lambert Law. 3.Desribe the measurement instruments of ions and salts in human body. 4. Identify all the clinical chemistry analysis and their measurement techniques. 5. Discus the importance of minerals in human body and their measurement. 6. Describe the principal work of Elisa technique and list their methods. 7. Explain the electrical conduction concept and their examples in human body. 8. Explain the osmotic conduction concept and their examples in human body. 9. List the types and function of enzyme in human body and their measurements techniques. 10. Discus the importance of proteins in human body and describe their measurements. 11. Explain the importance of fats in human body and explain their measurement techniques. 12. Define the hemoglobin and explain the hemoglobin diseases with its clinical significant. 13. List all types of minerals in human body and describe their daily

	requirements. 14. Define the immune system and recognize the foreign material and explain the disorders of immune system.
Indicative Contents المحتويات الارشادية	Indicative content includes the following: Clinical chemistry definition, analysis lists, work security rules, best laboratory uses guidelines. [3hr]. Spectrophotometer instruments criteria, theory, types, components, advantage and disadvantage, physical and medical application and Beer-Lambert law derivative .[10hr] Electrolyte analyzer definition, features, theory, components, configuration advantages, disadvantages and application. [6hr] Autoanalyzer concept, Blood Gas Analyzer (BGA) criteria, types, theory, components, figuration, advantages and disadvantages. [6hr] ELISA Technique concept, theory ,methods:(direct and indirect), components ,figuration, advantages ,disadvantages and applications [6hr]. Minerals definition, classifications, sources, function, nutrition(mg/day) and diagnostic procedure[6hr]. Electrical conduction concept , examples ,performing tests. Osmotic conduction concept, examples ,performing tests [10hr]. Enzyme definition, classification, function, performing test and clinical significant. [6hr] Proteins definition, classification ,function, clinical significant, Electrophoresis Technique :diagnostic procedure, theory and principle work [6hr]. Fats concept, classification, sources, importance, clinical signification and measurements: Hydro densitometry Weighing (Underwater Weighing, Near – infrared interaction (NIR), Skin Fold Caliper, Dual energy X-ray absorptiometry (DEXA), BMI (Body mass impedance) [10hr] . Hemoglobin definition, structure, analysis, hemoglobin diseases, clinical significant and diagnostic procedure: complete blood count (CBC) [6hr]. Concept of immunology, structure, material and disease diagnostic [3hr].

Learning and Teaching Strategies
استراجيات التعلم والتعليم
Strategies
Lectures - scientific laboratory- data show - summer training- workshops-seminars, written exam, Quizzes and online testing .

<table>
<tr><td colspan="4" align="center">Student Workload (SWL)
الحمل الدراسي للطالب محسوبا ل15 اسبوعا</td></tr>
<tr><td>Structured SWL (h/sem)
الحمل الدراسي المنتظم للطالب خلال الفصل</td><td>64</td><td>Structured SWL (h/w)
الحمل الدراسي المنتظم للطالب أسبوعيا</td><td>4</td></tr>
<tr><td>Unstructured SWL (h/sem)
الحمل الدراسي غير المنتظم للطالب خلال الفصل</td><td>61</td><td>Unstructured SWL (h/w)
الحمل الدراسي غير المنتظم للطالب أسبوعيا</td><td>4</td></tr>
<tr><td>Total SWL (h/sem)
الحمل الدراسي الكلي للطالب خلال الفصل</td><td colspan="3" align="center">125</td></tr>
</table>

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
			Module Evaluation تقييم المادة الدراسية		
Formative assessment	Quizzes	2	01%	3, 11	LO:1,2,3............14
	Assignments	2	10%	7,10	LO: 6, 13
	Projects / Lab.	2	10%	4,8	LO: 3, 10
	Report	1	10%	11	LO: 10,12
Summative assessment	Midterm Exam	2 hr	10%	7	LO: 1-7
	Final Exam	3 hr	50%	14	All
Total assessment			100%		

	Material Covered
	Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري
Week 1	Introduction ,Best laboratory uses and quality control.
Week 2	Spectrum instruments and uses.
Week 3	Ion and salt measurement instruments
Week 4	Auto-analysis instruments
Week 5	Mineral measurement instrument
Week 6	Elisa instrument and its uses

Week 7	**Mid term Exam**
Week 8	Electrical conduction
Week 9	Osmotic conduction
Week 10	Enzyme and their measurement
Week 11	Protein and its importance
Week 12	Fats and its importance
Week 13	Hemoglobin
Week 14	Minerals and nutrition
Week 15	Immunological chemistry
Week 16	**Preparatory week before the final exam**

Delivery Plan (Weekly Lab. Syllabus)	
المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to Clinical Chemistry instrumentation
Week 2	Lab1: spectrophotometer and colorimeter, theory, principle of work, operation, component's function, maintenance and the faults.
Week 3	Lab2: Flame photometer, types, theory, principle of work, operation, component's function, maintenance and the faults.
Week 4	Lab3: Blood gas analyzer and PH meter, theory, principle of work, operation, components function, normal results, maintenance and the faults.
Week 5	Lab4: Auto-analysis, types, theory, principle of work, operation, component's function, maintenance and the faults.
Week 6	Lab5: Elisa, types, theory, principle of work, operation, components function, maintenance and the faults.
Week 7	Lab6: Hemodialysis and peritoneal technique, theory, principle of work, operation, maintenance and faults.
Week 8	Lab7: Electrophoresis, theory, principle of work, operation, component's function, normal results, maintenance and the faults.

Week 9	Lab 8: Body fat analyzer, theory, principle of work, operation, component's function, normal results, maintenance and the faults.
Week 10	Lab 9: review for the clinical chemistry instrumentation.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Clinical Chemistry Hand book :workbook of principles ,techniques and correlation by N.T.Coleman	yes
Recommended Texts	LABORATORY INSTRUMENTATION AND TECHNIQUES, Book by Dr.Mathew Folaranmi OLANIYAN,Associate Professor,Department of Medical Laboratory Science,Achievers University, Owo-Nigeria,2017.	No
Websites	1.https://byjus.com/chemistry/spectrophotometer-principle/ 2.3.https://www.bosterbio.com/media/pdf/ELISA_Handbook.pdf3.	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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Fail Group (0 – 49)	**FX** – Fail	راسب(قيد المعالجة)	(45-49)	More work required but credit awarded
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Module Information
معلومات المادة الدراسية

Module Title	**Biomedical Transducers and Sensors**	Module Delivery	
Module Type	**Core**	☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	**MIET2205**		
ECTS Credits	**5**		
SWL (hr/sem)	**125**		
Module Level	UGII	**Semester of Delivery**	4
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	.
Module Tutor	م.د. علاء حسين احمد	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	8/11/2023	**Version Number**	1.0

Relation with other Modules
العلاقة مع المواد الدراسية الاخرى

Prerequisite module	Fundamental of Electrical Engineering (AC) - MIET1201	**Semester**	UGI-S2
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
أهداف المـادة الدراسية ونتائج التعلم والمحتويات الارشادية	
Module Aims أهداف المادة الدراسية	1. Analyze errors and uncertainty of experimental results obtained from biomedical sensors. 2. Understand requirements, calibration, characteristics, and parameters of biomedical sensors. 3. Design with confidence signal conditioning systems required for processing the sensors responses. 4. Understand the operating principle, types, parameters, signal conditioning, and applications of resistive, reactance variation and self-generating sensors. 5. Understand the operating principle of different types of optical sensors and their features. 6. Understand the operation, models, and parameters of ultrasound transducers. 7. Understand the design, main building blocks, features, and calibration of intelligent sensors.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Define biomedical sensors, biosensors, and biomedical transducers. 2. Classify the biomedical sensors. Acquire knowledge about sensor data processing and feature extraction. 3. Recognize the requirements of biomedical sensors. 4. Explain the Static and dynamic characteristics of biomedical sensors. 5. Explain the requirements of signal conditioning circuits suitable for biomedical sensors. 6. Identify design principles of conditioning circuits. 7. Identify the different types of resistive, reactance variation and self- 8. generating sensors. 9. Explain the operating principle, parameters, calibration and applications. of resistive, reactance variation and self-generating sensors. 10. Identify the different types of optical sensors. 11. Reveal the advantages of optical sensors. 12. Classify ultrasound transducers. 13. Recognize the main parts of ultrasound transducers. 14. List the main features of intelligent sensors.

Indicative Contents المحتويات الارشادية	Indicative Contents including the following: General concept and terminology, Sensor classification and calibration, static and dynamic characteristics, errors [10 hrs] Resistive Temperature Detectors (RTD), Thermistors, light-dependent resistors, signal conditioning for resistive sensors [5hrs] Capacitive sensors, Inductive sensors, Electromagnetic sensors, signal conditioning for reactance variation sensors [5 hrs] Thermoelectric sensors, Piezoelectric sensors, Electrochemical sensors, Signal conditioning for self-generating sensors.[7 hrs] Optical techniques, General principles of optical sensing, Fiber-optic basics, Fiberoptic sensor technologies and applications[7 hrs] Fundamentals of ultrasonic-based sensors, Ultrasonic-based sensing methods and applications.[8 hrs] Definition, parameters, features, operating principle, main building blocks and applications.[5 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Active learning, where students should be active and involved in the learning process inside the classroom, will be emphasized in the delivery of this course. ➢ Different active learning methods/approaches such as: Engaged Learning, Project-Based Learning, Cooperative Learning, Problembased Learning, Structured Problem-solving, will be used. ➢ The teaching method that will be used in this course will be composed of a series of mini lectures interrupted with frequent discussions and brainstorming exercises. PowerPoint presentations will be prepared for the course materials. ➢ Use software packages for design and simulation of signal conditioning circuits implemented using these sensors.

Student Workload (SWL)
الحمل الدراسي للطالب محسوبا لـ15 اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	64	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	61	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	1	10% (10)	6,9	LO # 1-4, and 5-8
	Assignments	2	10% (5)	5,12	LO # 1-4, 5-10
	Projects / Lab.	1	10% (10)	Continuous	Continuous
	Report	1	10% (10)	14	LO # 5-14
Summative assessment	Midterm Exam	2 hr	10% (10)	12	LO # 1-11
	Final Exam	4hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1,2	**Introduction to Biomedical Sensors** General concept and terminology, Sensor classification and calibration, static and dynamic characteristics, errors and uncertainty.
Week 3,4	**Resistive Sensors and their signal conditioning** Potentiometers, Strain gages, Resistive Temperature Detectors (RTD), Thermistors, light-dependent resistors, signal conditioning for resistive sensors

Week 5,6	**Reactance Variation and Electromagnetic Sensors**
	Capacitive sensors, Inductive sensors, Electromagnetic sensors, signal conditioning for reactance variation sensors,
Week 7	**Mid- Exam**
Week 8,9	**Self-Generating Sensors and Signal Conditioning** Thermoelectric sensors, Piezoelectric sensors, Electrochemical sensors, Signal conditioning for self-generating sensors.
Week 10,11	**Optical Sensors** Optical techniques, General principles of optical sensing, Fiber-optic basics, Fiber-optic sensor technologies and applications.
Week 12,13	**Ultrasound Transducers** Fundamentals of ultrasonic-based sensors, Ultrasonic-based sensing methods and applications.
Week 14	**Intelligent Sensors** Definition, parameters, features, operating principle , main building blocks and applications.
Week 15	Preparatory week before final exam

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
Week 1,2	Characteristics of various Biomedical sensors(Pulse sensor, Galvanic skin Response, Glucose sensor, EMG sensor).
Week 3,4	Measurement of Resistance, Inductance and Capacitance using bridge circuits.
Week 5	Measurement of temperature using thermistor and RTD.
Week 6	Design of preamplifiers to acquire bio-signals along with impedance matching circuit using suitable ICs.
Week 7,8	Design of EEG, ECG amplifiers and Measurement of heart rate.
Week 9,10	Acquire and display electrical and biological biosignals on a computer using the appropriate hardware and software tools.

Week 11	e-Health Sensor Platform V2.0 using Arduino and Raspberry Pi.
Week 12	Measurement of respiration rate.

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Sensors and Signal Conditioning, Ramon Pallas-Areny and John G. Webster, John Wiley & Sons, 2001,2nd Edition	No
Recommended Texts	Biosensors: An Introduction , Eggins, Brian, John Wiley & Sons, 1996,1st Edition	No
Websites	https://www.multisim.com/	

Grading Scheme مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
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نموذج وصف المقرر الدراسي
اللغة الانكليزية **II**

Module Information معلومات المادة الدراسية			
Module Title	English Language II	**Module Delivery**	
Module Type	B	☒ **Theory**	
Module Code	MTU1003	☒ **Lecture** ☐ **Lab**	
ECTS Credits	2	☐ **Tutorial** ☐ **Practical**	
SWL (hr/sem)	50	☐ **Seminar**	
Module Level	1 2	**Semester of Delivery**	4
Administering Department	MIET	**College**	S.I.U.C
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor	م.م. حارث عبدالله محمود	**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date	19/10/2023	**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الاخرى			
Prerequisite module	**English Language1** **MTU1002**	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims
اهداف المادة الدراسية
	Module Aims
	
	The module aims of the English Language Course are structured to support learners at the intermediate to upper-intermediate level in enhancing their English language skills and achieving specific learning outcomes. By the end of this course, students will:
	
	1. *Grammar Mastery:*
	  - Achieve a comprehensive understanding of advanced grammar rules, including the use of auxiliary verbs, present simple, present continuous, past simple, present perfect, future forms, questions and negatives, modals, comparatives and superlatives, conditionals, passive voice, relative clauses, present perfect continuous, and reported speech.
	
	2. *Vocabulary Expansion:*
	  - Expand their vocabulary across various topics and contexts, such as everyday expressions, common activities, storytelling, experiences, permissions, hypothetical situations, descriptive details, and phrasal verbs. This will include learning advanced vocabulary related to describing characteristics, actions, and consequences.
	
	3. *Everyday English Proficiency:*
	  - Develop practical language skills for everyday communication, focusing on effective use of everyday expressions, making comparisons, discussing future intentions, and navigating social interactions. This includes enhancing the ability to participate in conversations and use language appropriately in various social settings.
	
	4. *Reading Comprehension:*
	  - Improve reading comprehension skills through engagement with diverse texts, including stories, articles, and informative content. Students will analyze and interpret texts, building the ability to understand complex language structures and themes.
	
	5. *Writing Competence:*
	  - Enhance writing skills by composing various forms of written content, such as short stories, comparative essays, descriptive passages, and reviews. Students will learn to use linking words, express opinions, and structure their writing coherently.
	
	6. *Critical Thinking and Analysis:*
	  - Develop critical thinking skills by analyzing and discussing texts, drawing comparisons, and making inferences. Students will be encouraged to engage with texts critically, assessing arguments and evidence.
	
	7. *Cultural Awareness:*

	- Gain insights into different cultures and lifestyles through readings and discussions, fostering a broader understanding of the world. This will help students develop cultural sensitivity and an appreciation for diversity.

	8. *Effective Communication:* - Improve their ability to express ideas clearly and confidently in both spoken and written forms. The course will emphasize clarity, coherence, and fluency in communication, preparing students to articulate their thoughts effectively. 9. *Language Assessment Preparation:* - Prepare for language assessments, including a final review and exam, by consolidating their understanding of grammar, vocabulary, and reading comprehension. This will include practicing various question formats and test-taking strategies. 10. *Independent Learning:* - Develop skills for independent learning, enabling students to continue enhancing their English proficiency beyond the course. This includes fostering a habit of self-study and utilizing resources effectively. 11. *Language Fluency:* - Work towards achieving greater fluency in English, allowing students to engage in complex conversations, express nuanced ideas, and write with increased sophistication and ease. 12. *Cultural Competency:* - Build cultural competence and sensitivity through exposure to diverse texts and discussions about different cultural perspectives. This will enhance students' ability to interact respectfully and knowledgeably in multicultural contexts. These module aims provide a comprehensive framework for student learning and development, ensuring that participants gain both linguistic competence and cultural awareness throughout the course.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Module Learning Outcomes Students will comprehend and discuss a variety of texts on diverse topics, enhancing their reading and analytical skills. Students will expand their vocabulary related to various topics, including everyday expressions, actions, experiences, and descriptive details. Students will be able to write various forms of text, including short stories, comparative essays, descriptive passages, and reviews. Students will use auxiliary verbs correctly in sentences, mastering their application in different tenses. Students will distinguish between present simple, past simple, present continuous, and present perfect tenses, understanding their appropriate contexts.

	Students will study and apply modal verbs such as must, should, can, and could, understanding their use in expressing necessity, possibility, and advice. s tudents will understand and correctly use comparative and superlative adjectives to describe and compare objects and situations. Students will focus on verb patterns and express future intentions using appropriate grammatical structures. Students will learn the correct usage of first and second conditionals and the passive voice in various contexts. Students will effectively use defining and non-defining relative clauses to provide additional information in sentences. Students will describe ongoing actions and experiences using the present perfect continuous tense and appropriate time expressions. Students will learn to report statements, questions, and commands accurately, mastering the use of reported speech. Students will discuss hypothetical situations and understand the use of time and conditional clauses in various contexts. Students will acquire and use advanced vocabulary, including phrasal verbs and synonyms/antonyms, in both written and spoken communication.

Indicative Contents المحتويات الارشادية	ntermediate Book (Based on "New Headway Plus: Intermediate Student's Book") Total Hours: 21 hours Week 1 (2 hours) Grammar: Auxiliary Verbs (Unit 1) Focus: Usage of "to be," "have," and other auxiliary verbs. Vocabulary: Everyday Expressions (Unit 1) Reading: "It's a Wonderful World!" (Unit 1) Writing: Basic sentences using auxiliary verbs Week 2 (2 hours) Grammar: Present Simple (Unit 2) Focus: Usage in daily routines and habits. Vocabulary: Common Activities (Unit 2) Reading: "Get Happy!" (Unit 2) Week 3 (2 hours) Grammar: Present Continuous (Unit 2) Focus: Actions happening now. Vocabulary: Actions and Activities (Unit 2) Reading: "Simple or Continuous?" (Unit 2) Week 4 (2 hours) Grammar: Past Simple (Unit 3) Focus: Narrating past events. Vocabulary: Telling Stories (Unit 3) Reading: "Telling Tales" (Unit 3) Writing: Writing a short story using past simple tense Week 5 (2 hours) Grammar: Present Perfect (Unit 1, 3) Focus: Describing experiences and actions with present relevance. Vocabulary: Experiences and Achievements (Unit 1, 3) Reading: "Present Perfect Stories" (Unit 1, 3) Week 6 (2 hours) Grammar: Future Forms (Unit 5) Focus: "Going to," "will," and present continuous for future plans. Vocabulary: Plans and Predictions (Unit 5) Reading: "On the Move" (Unit 5) Week 7 (2 hours) Grammar: Questions and Negatives (Unit 4) Focus: Formulating questions and negative sentences. Vocabulary: Social Interactions (Unit 4) Reading: "Nothing but the Truth" (Unit 4) Week 8 (2 hours) Grammar: Modals (Unit 4, 7) Focus: Expressing obligation, permission, and possibility. Vocabulary: Permissions and Possibilities (Unit 4, 7) Reading: "Doing the Right Thing" (Unit 4) Week 9 (2 hours) Grammar: Comparatives and Superlatives (Unit 6) Focus: Comparing people, objects, and situations. Vocabulary: Describing Characteristics (Unit 6) Reading: "Making Comparisons" (Unit 6) Writing: Comparative essay Week 10 (1 hour) Grammar: Conditionals (Unit 8) Focus: First and second conditional structures. Vocabulary: Hypothetical Situations (Unit 8) Reading: "Just Imagine!" (Unit 8) Week 11 (1 hour) Grammar: Passive Voice (Unit 2, 3) Focus: Usage in various tenses to emphasize actions. Vocabulary: Actions and Consequences (Unit 2, 3) Reading: "Passive Constructions" (Unit 2, 3) Week 12 (1 hour) Grammar: Relative Clauses (Unit 8) Focus: Defining and non-defining clauses. Vocabulary: Descriptive Details (Unit 8) Reading: "Descriptive Sentences" (Unit 8) Week 13 (1 hour) Grammar: Present Perfect Continuous (Unit 10) Focus: Describing ongoing actions and experiences. Vocabulary: Time Expressions (Unit 10) Reading: "Obsessions" (Unit 10) Writing: Describing ongoing activities using present perfect continuous Week 14 (1 hour) Grammar: Reported Speech (Unit 11) Focus: Reporting statements, questions, and commands. Vocabulary: Reporting Verbs (Unit 11) Reading: "Reported Conversations" (Unit 11) Week 15 (2 hours) Review and Exam Preparation Focus: Reviewing key grammar, vocabulary, and reading topics covered. Upper-Intermediate Book (Based on "New Headway Plus: Upper Intermediate Student's Book") Total Hours: 7 hours (Max 25% of Total Content) Week 8 (1 hour) Reading: "Getting on Together" (Unit 7) Focus: Permissions and possibilities. Week 9 (1 hour) Vocabulary: Describing Characteristics (Unit 6) Reading: "Making it Big" (Unit 6) Week 10 (1 hour) Vocabulary: Hypothetical Situations (Unit 8) Reading: "Going to Extremes" (Unit 8) Week 11 (1 hour) Vocabulary: Actions and Consequences (Unit 7) Reading: "Getting on Together" (Unit 7) Week 12 (1 hour) Vocabulary: Descriptive Details (Unit 8) Reading: "Going to Extremes" (Unit 8) Week 13 (1 hour) Vocabulary: Time Expressions (Unit 10) Reading: "Risking Life and

	Limb" (Unit 10) Week 14 (1 hour) Vocabulary: Reporting Verbs (Unit 11) Reading: "In Your Dreams" (Unit 11)

Learning and Teaching Strategies استراتيجياث انتعهم وانتعهيم	
Strategies	Learning and Teaching Strategies for the English Language Course Interactive Language Practice: Engage learners in communicative activities that promote active participation and practical language use. Strategies include pair work, group discussions, role-plays, and language games, which are designed to foster speaking and listening skills in an engaging and supportive environment. Use of Authentic Materials: Integrate authentic materials such as videos, audio recordings, and reading texts that reflect real-life language use. These materials help learners develop their listening, speaking, reading, and writing skills by exposing them to various dialects, accents, and real-world contexts. Task-Based Learning: Design tasks and projects that require learners to use the target language to accomplish specific objectives or solve problems. This approach promotes meaningful language use, encouraging learners to think critically and develop problem-solving skills while using English in practical scenarios. Visual Aids and Multimedia: Utilize visual aids, such as charts, diagrams, and multimedia resources, to enhance language learning and comprehension. These tools aid in vocabulary acquisition, provide context, and support understanding, making abstract concepts more concrete and accessible. Error Correction and Feedback: Provide timely and constructive feedback on learners' language production, focusing on both strengths and areas for improvement. Encourage selfcorrection and peer correction, fostering a supportive learning environment where students can learn from their mistakes and from each other. This approach helps build confidence and promotes a growth mindset.

Student Workload (SWL)

Student Workload (SWL)			
الحمل الدراسي للطالب محسوبا ل15 اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1
Total SWL (h/sem) الحمل الدراسى الكلى للطالب خلال الفصل	50		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	15% (15)	5, 10, 14	LO #1, 2, 8 and 7
	Assignments	3	15% (15)	2, 9, 13	LO # 3, 4, 6 and 7
	Projects / Lab.				
	Report	1	10% (10)	14	LO # 1-7
Summative assessment	**Midterm Exam**	2 hours	10% (10)	7	LO # 1-4
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Grammar: Auxiliary Verbs (Intermediate: Unit 1) Vocabulary: Everyday Expressions (Intermediate: Unit 1) Reading: "It's a Wonderful World!" (Intermediate: Unit 1) Writing: Basic sentences using auxiliary verbs (Intermediate: Unit 1)
Week 2	Grammar: Present Simple (Intermediate: Unit 2) Vocabulary: Common Activities (Intermediate: Unit 2) Reading: "Get Happy!" (Intermediate: Unit 2)
Week 3	Grammar: Present Continuous (Intermediate: Unit 2) Vocabulary: Actions and Activities (Intermediate: Unit 2) Reading: "Simple or Continuous?" (Intermediate: Unit 2)

Week 4	Grammar: Past Simple (Intermediate: Unit 3) Vocabulary: Telling Stories (Intermediate: Unit 3) Reading: "Telling Tales" (Intermediate: Unit 3) Writing: Writing a short story using past simple tense (Intermediate: Unit 3)
Week 5	Grammar: Present Perfect (Intermediate: Unit 1, 3) Vocabulary: Experiences and Achievements (Intermediate: Unit 1, 3) Reading: "Present Perfect Stories" (Intermediate: Unit 1, 3)
Week 6	Grammar: Future Forms (Intermediate: Unit 5) Vocabulary: Plans and Predictions (Intermediate: Unit 5) Reading: "On the Move" (Intermediate: Unit 5)
Week 7	Grammar: Questions and Negatives (Intermediate: Unit 4) Vocabulary: Social Interactions (Intermediate: Unit 4) Reading: "Nothing but the Truth" (Intermediate: Unit 4)
Week 8	Grammar: Modals (Intermediate: Unit 4, 7) Vocabulary: Permissions and Possibilities (Intermediate: Unit 4, 7; Upper-Intermediate: Unit 7)
	Reading: "Doing the Right Thing" (Intermediate: Unit 4; Upper-Intermediate: Unit 7 "Getting on Together")
Week 9	Grammar: Comparatives and Superlatives (Intermediate: Unit 6) Vocabulary: Describing Characteristics (Intermediate: Unit 6; Upper-Intermediate: Unit 6) Reading: "Making Comparisons" (Intermediate: Unit 6; Upper-Intermediate: Unit 6 "Making it Big") Writing: Comparative essay (Intermediate: Unit 6)
Week 10	Grammar: Conditionals (Intermediate: Unit 8) Vocabulary: Hypothetical Situations (Intermediate: Unit 8; Upper-Intermediate: Unit 8) Reading: "Just Imagine!" (Intermediate: Unit 8; Upper-Intermediate: Unit 8 "Going to Extremes")
Week 11	Grammar: Passive Voice (Intermediate: Unit 2, 3) Vocabulary: Actions and Consequences (Intermediate: Unit 2, 3; UpperIntermediate: Unit 7) Reading: "Passive Constructions" (Intermediate: Unit 2, 3; Upper-Intermediate: Unit 7 "Getting on Together")

Week 12	Grammar: Relative Clauses (Intermediate: Unit 8) Vocabulary: Descriptive Details (Intermediate: Unit 8; Upper-Intermediate: Unit 8) Reading: "Descriptive Sentences" (Intermediate: Unit 8; Upper-Intermediate: Unit 8 "Going to Extremes")
Week 13	Grammar: Present Perfect Continuous (Intermediate: Unit 10) Vocabulary: Time Expressions (Intermediate: Unit 10; Upper-Intermediate: Unit 10) Reading: "Obsessions" (Intermediate: Unit 10; Upper-Intermediate: Unit 10 "Risking Life and Limb") Writing: Describing ongoing activities using present perfect continuous (Intermediate: Unit 10)
Week 14	Grammar: Reported Speech (Intermediate: Unit 11) Vocabulary: Reporting Verbs (Intermediate: Unit 11; Upper-Intermediate: Unit 11) Reading: "Reported Conversations" (Intermediate: Unit 11; Upper-Intermediate: Unit 11 "In Your Dreams")
Week 15	Review and Exam Preparation

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• L. Soars and J. Soars, New Headway Plus - Intermediate, 4th ed. Oxford: Oxford University Press, 2019. • Soars, J., Soars, L. New Headway Plus: Upper-Intermediate. United Kingdom: Oxford University Press.	Yes
Recommended Texts	☐ Audio CDs or Online Audio: Recordings of listening exercises, dialogues, and pronunciation practice.	No
Websites	Collage E- Library	

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

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

معلومات المادة الدراسية	**Module Information**	

Module Title	Arabic Language (2)	Module Delivery
Module Type	Basic	☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	MTU1009	
ECTS Credits	2	
SWL (hr/sem)	50	

Module Level		2	Semester of Delivery	2
Administering Department		MIET	College	S.I.U.C
Module Leader			e-mail	
Module Leader's Acad. Title			Module Leader's Qualification	
Module Tutor	م.م. معن مزعل شهاب		e-mail	
Peer Reviewer Name			e-mail	
Scientific Committee Approval Date		15/10/2024	Version Number	1.0

العلاقة مع المواد الدراسية الأخرى	**Relation with other Modules**	

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

	Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية
Module Aims أهداف المادة الدراسية	أهداف المادة الدراسية هي اني يكون الطالب قادراً على أن : 1. يتعرف على ماهية التعبير القرآني. 2. يتعلم القواعد النحوية المستعملة في التعبير القرآني ، والأثر البلاغي والفني الذي يترتب على كيفية التعبير القرآني، وأن يفهم الطالب كيفية التحليل للنصوص القرآنية . 3. يتعرف على شخصية من أهم شخصيات الأدب والشعر العربي والعراقي ،بدر شاكر السياب ، ومعرفة شعره . 4. يتعرف على علامات الإعراب الأصلية والفرعية ، ويتعلم استعملها في اللغة العربية ، ويفهم الفرق بين علامات الإعراب الفرعية والاصلية . 5. يتعلم الفرق بين الجمل الأسمية والفعلية ، ويتعرف على أنواع المبتدأ، وأنواع الخبر، ويفهم الفرق بينهما . 6. يتعرف عل إن واخواتها ، ويتعلم القواعد الخاصة بها . 7. يفهم الفرق بين إنَّ و أنَّ، وأنْو أنْ ، ويطبق ذلك عند استعمال كل منها في النصوص . 8. .يتعرف عل كان وأخواتها ، ويتعلم عمل كل منها في اللغة ، ويتمكن من استعمالها الصحيح في اللغة . 9. يتعرف على عمل الأفعال الخمسة ، وعلامات إعرابها ، ويستطيع استعمالها بشكل صحيح في الخطاب ، أو النص . 10. يتعرف على الأخطاء اللغوية ، ويتعلم تجنبها أثناء الكتابة . 11. يدرس معلومات لغوية : الأضداد والمرادفات ، والفرق اللغوية ، والمعاملات النحوية ، ويفهم الفرق بينها، ويتمكن من تحليلها . 12. يتعلم إعراب المثنى . 13. يتعرف على أنواع الجموع، ويتعلم التفريق بينها ، ويفهم كيفية إعرابها . 14. يتعلم كيفية كتابة قواعد اللغة العربية في لوحة بيانية ، ويتمكن من تصويب الأخطاء اللغوية .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	مخرجات التعلم للمادة الدراسية هي: 1. قدرة الطالب على فهم التعبير القرآني، وتحليل النصوص . 2. القدرة على استخدام القواعد النحوية ، وفهم الأساليب البلاغية والقدرة على استعمالها . 3. معرفة الطالب لشخصية الشاعر والأديب بدر شاكر السياب ، وأهم أشعاره وآثاره . 4. القدرة على التمييز بين علامات الإعراب الأصلية والفرعية ، والقدرة على استعمالها في الخطاب ، أو النص . 5. قدرة الطالب على التمييز بين الجمل الأسمية والفعلية ، وقدرته على التمييز بين أنواع المبتدأ ،والخبر ، وكيفية استعمال الجمل وإعرابها. 6. فهم الطالب لعمل إنَّ وأخواتها ، وقدرته على استعمالها بشكل صحيح في الجمل . 7. القدرة على التفريق بين أنَّ وإنَّ، وإنْ وأنْ ، واستعمالها في مواضعها الصحيحة في النصوص . 8. القدرة على فهم عمل كان وأخواتها ، واستعمالها بشكل صحيح . 9. التمكن من معرفة و أعراب الأفعال الخمسة ، وكيفية استعمالها في الجمل.

	10. القدرة على معرفة وتجنب الأخطاء اللغوية عند الكتابة .
	11. معرفة إعراب المثنى .
	12. القدرة على التمييز بين الجموع ، وكيفية إعرابها ، واستعمالها في الجمل .
	13. معرفة الطالب لمعلومات لغوية : المرادفات. والأضداد ، والفرق اللغوية ، والمعادلات النحوية ، والقدرة على استخراجها ، أو استعمالها في الجمل .
Indicative Contents المحتويات الإرشادية	**المحتويات الإرشادية في مادة اللغة تشمل مجموعة من المفاهيم والمواضيع التي يتم تغطيتها خلال عملية التعلم. ومن بين المحتويات الإرشادية المهمة:** 1. مقدمة عن التعبير القرآني، وتعريف بالإعجاز اللغوي في آيات القرآن الكريم وجمالية اللغة العربية وبلاغتها .) 4 ساعات(2. التعريف بشخصية الشاعر الكبير بدر شاكر السياب ، وأهمية شعره في الأدب العربي والعراقي.) 4 ساعات(3. دراسة علامات الإعراب ، بنوعيها ، وكيفية الأعراب .) 4 ساعات(4. دراسة الجمل الأسمية والفعلية ، وتعلم التفريق بين الأنواع المبتدأ ، وأنواع الخبر .) 4 ساعات(5. دراسة إن وأخواتها ، وكيفية عملها وأعرابها .) 4 ساعات(6. دراسة الفرق بين إنَّ وأنَّ، وإنْ وأنْ، وكيفية عملها وأعرابها .) 4 ساعات(7. دراسة كان وأخواتها ، وكيفية عملها وإعرابها.) 4 ساعات(8. التعريف بالأفعال الخمسة ، وعملها وإعرابها ..) 4 ساعات(9. دراسة الأخطاء اللغوية الشائعة وتطبيقاتها في النصوص .) 4 ساعات(10. تعلم المعلومات اللغوية : الأضداد والمترادفات، والفروق اللغوية ، والمعادلات النحوية.) 3 ساعات(11. دراسة المثنى وأعرابه .)3ساعات(12. دراسة الجموع ، وأنواعها وإعرابها.)3 ساعات(13. دراسة القواعد النحوية وكتابتها في رسم بياني ، وتصويب الأخطاء اللغوية.) 3 ساعات(
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	راتيجيات التعلم والتعليم المستخدمة في مادة اللغة تشمل مجموعة متنوعة من النهج والتقنيات التي تعزز ية التعلم للطلاب. من بين هذه الاستراتيجيات: عمل 1. التفاعل النشط: يتم تشجيع الطلاب على المشاركة والمشاركة الفعالة في الدروس من خلال المناقشات الجماعية والأنشطة التفاعلية. 2. التعلم التعاوني: يشجع التعاون والتعاون بين الطلاب من خلال العمل الجماعي والمشاريع الجماعية ،حيث يتعاون الطلاب مع بعضهم البعض لتحقيق أهداف التعلم المحددة. 3. التطبيق العملي: يتم توفير فرص للطلاب لتطبيق المفاهيم والمهارات المكتسبة في سياقات عملية وواقعية، مما يعزز التفاعل الفعال مع المادة. 4. استخدام التقنيات الحديثة: يستفيد الطلاب من استخدام التكنولوجيا في عملية التعلم، مثل استخدام الحواسيب والإنترنت للبحث والتعلم الذاتي. 5. توفير ردود فعل فورية: يتم توفير ردود فعل فورية وتقييم مستمر للطلاب، 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 للطلاب.

7. باستخدام هذه الاستراتيجيات، يتم تعزيز التفاعل والتعلم الفعال للطلاب، و
8. تحفيزهم على المشاركة واكتساب المعرفة والمهارات بشكل شامل وشيق.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	**2**
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	17	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	**1**
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**50**		

Module Evaluation تقييم المادة الدراسية					
		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative Assessment	**Quizzes**	3	15% (15)	5, 10, 13	LO #1, 5, and 11
	Assignments	3	15% (15)	2, 11, 14	LO # 3, 6 and 12
	Projects / Lab.				
	Report	1	10% (10)	14	LO # 1-13
Summative Assessment	**Midterm Exam**	2 hours	10% (10)	7	LO # 1-7
	Final Exam	3 hours	50% (50)	16	All
Total assessment			100% (100 Marks)		

المنهاج الاسبوعي النظري Delivery Plan (Weekly Syllabus)	
الأسبوع الأول ، والثاني	التعبير القرآني، نحويا من حيث تركيب الجملة والنص. بلاغيا من حيث التأثير الفني، والرجوع إلى المصدر (كتاب التعبير القرآني (للدكتور فاضل السامرائي .
الاسبوع الثـالث	الشاعر بدر شاكر السياب .
الأسبوع الـرابـع	علامات الإعراب الأصلية:) الفتحة والضمة، والكسرة (، وعلامات الإعراب الفرعية :) الألف ، والواو ،والياء (.
الأسبوع الخـامس	الجمل الأسمية – المبتدأ والخبر ، وانواع المبتدأ ، وأنواع الخبر .
الأسبوع السـادس	أنَّ وأخواتها
الأسبوع السـابع	الفرق بين إنَّ وأنَّ ، وأنْ وإنْ .

الأسبوع الثـــــامن	كان وأخواتها .
الأسبوع التاسع والعاشر	الأفعال الخمسة .
الاسبوع الحادي عشر	الأخطاء اللغوية الجزء (2)
الاسبوع الثاني عشر	معلومات لغوية : المرادفات والاضداد، وفروق لغوية. ومعادلات نحوية .
الأسبوع الثالث عشر والرابـــع عشر	المثنى وإعرابه .
الأسبوع الخامس عشر	أنواع الجموع : جمع المذكر السالم- جمع المؤنث السالم- جمع التكسير .
الأسبوع السادس عشر	هندسة النحو: قواعد اللغة العربية في لوحة تعليمية ، وتصويبات لغوية

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	☐ ملزمة اللغة العربية) المعممة من وزارة التعليم العالي والبحث العلمي(	Yes
Recommended Texts	☐ التعبير القرآني للدكتور فاضل السامرائي.	No
Websites	The Collage E-Library	

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

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