

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                       |                               |                                                                                        |
|------------------------------------|---------------------------------------|-------------------------------|----------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                       |                               |                                                                                        |
| Module Title                       | Digital Fundamentals                  |                               | Module Delivery                                                                        |
| Module Type                        | Core                                  |                               | ✓ Theory<br>Lecture<br><br>✓ Lab<br>Tutorial<br>Practical<br>Seminar                   |
| Module Code                        | CET1101                               |                               |                                                                                        |
| ECTS Credits                       | 6                                     |                               |                                                                                        |
| SWL (hr/sem)                       | 150                                   |                               |                                                                                        |
| Module Level                       | 1                                     | Semester of Delivery          | 1                                                                                      |
| Administering Department           | CET                                   | College                       | ETC                                                                                    |
| Module Leader                      | Mohammad Ali Anbar                    | e-mail                        | <a href="mailto:Mohammad.Ali.Anbar@alayer.edu.iq">Mohammad.Ali.Anbar@alayer.edu.iq</a> |
| Module Leader's Acad. Title        | Ass. Professor                        | Module Leader's Qualification | PHD                                                                                    |
| Module Tutor                       | Zahraa Abdel Mahdi Abdel Kazem        | e-mail                        | <a href="mailto:Zahraa.Abdel@alayer.edu.iq">Zahraa.Abdel@alayer.edu.iq</a>             |
| Peer Reviewer Name                 | Asst. Prof.<br>Ghadir Ibrahim<br>Madi | e-mail                        | <a href="mailto:Ghadir.Ibrahim@alayer.edu.iq">Ghadir.Ibrahim@alayer.edu.iq</a>         |
| Scientific Committee Approval Date | 18/01/2024                            | Version Number                | 1.0                                                                                    |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <ol style="list-style-type: none"> <li>1. To be able to deal with the number systems and codes.</li> <li>2. To understand the functionality of logic gates.</li> <li>3. To have a skill to use the logic gates in designing logic circuit.</li> <li>4. To have a skill to simplify the digital circuits.</li> <li>5. To learn the simplification process, Boolean expression, Demorgans law, and Karnaugh map..</li> <li>6. To understand the principles for designing logic circuit.</li> <li>7. To understand adder, subtractor, decoder, incoder, multiplexer, demultipleaer, and comparator circuits.</li> </ol>                                                                                                                                                                                                                                                |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <ol style="list-style-type: none"> <li>1. Recognize each type of number systems.</li> <li>2. Identify the process of converting between number systems.</li> <li>3. Summarize the types of logic gates.</li> <li>4. Discuss the use of each gate.</li> <li>5. Describe design of logic circuit by using logic gats.</li> <li>6. Explain the simplification processes.</li> <li>7. Explain Boolean expression and Demorgan's law.</li> <li>8. Explain the Karnaugh map for different numbers of bits.</li> <li>9. Discuss the design of logic circuit before and after simplification.</li> <li>10. Explain the combinational logic circuit.</li> <li>11. Identify the adder, subtractor, decoder, encoder, multiplexer, demultiplexer, comparator circuits, and code conversion.</li> <li>12. Identify the basic circuit elements and their applications</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p>Indicative content includes the following.</p> <p>--Number systems - decimal, binary, octal, and hexadecimal number system, conversion, operation. <b>[8 hrs]</b></p> <p>-Codes- excess-3,gray code, conversions, operations, complements <b>[8 hrs]</b></p> <p>--Logic gates-NOT, AND, OR, NOR, NAND, XOR, XNOR. <b>[5 hrs]</b></p> <p>--Logic simplification-Boolean theorem and Demorgans law. <b>[10 hrs]</b></p> <p>--Karnaugh map-SOP, POS, and don't care. <b>[10 hrs]</b></p> <p>--Arithmetic operations Part A- adder, parallel binary adder, subtractor, adder-subtractor<br/> <b>[10 hrs]</b></p> <p>--Arithmetic operations Part B- multiplexer, demultiplexer, decoder, encoder, comparator, and code conversion. <b>[10 hrs]</b></p>                                                                                                               |

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

| <b>Student Workload (SWL)</b><br>الحمل الدراسي للطلاب موزع على ١٥ اسبوع        |     |                                                                            |      |
|--------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطلاب خلال الفصل       | 64  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطلاب أسبوعياً       | 4.26 |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطلاب خلال الفصل | 86  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطلاب أسبوعياً | 5.73 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطلاب خلال الفصل              | 150 |                                                                            |      |

| <b>Module Evaluation</b><br>تقييم المادة الدراسية |                        |             |                  |            |                           |
|---------------------------------------------------|------------------------|-------------|------------------|------------|---------------------------|
|                                                   |                        | Time/Number | Weight (Marks)   | Week Due   | Relevant Learning Outcome |
| <b>Formative assessment</b>                       | <b>Quiz</b>            | 2           | 10% (10)         | 5, 10      | LO #1- 3, LO # 4 - 8      |
|                                                   | <b>Assignments</b>     | 1           | 10% (10)         | 12         | LO # 1-11                 |
|                                                   | <b>Projects / Lab.</b> | 1           | 10% (10)         | Continuous | LO # 1-12                 |
|                                                   | <b>Report</b>          | 1           | 10% (10)         | Continuous | LO # 1-12                 |
| <b>Summative assessment</b>                       | <b>Midterm Exam</b>    | 2 hr        | 10% (10)         | 10         | LO # 1-10                 |
|                                                   | <b>Final Exam</b>      | 4hr         | 50% (50)         | 16         | All                       |
| <b>Total assessment</b>                           |                        |             | 100% (100 Marks) |            |                           |

| <b>Delivery Plan (Weekly Syllabus)</b><br>المنهاج الاسبوعي النظري |                                                                            |
|-------------------------------------------------------------------|----------------------------------------------------------------------------|
|                                                                   | <b>Material Covered</b>                                                    |
| <b>Week 1</b>                                                     | Number systems (decimal, binary, octal, conversions, operations)           |
| <b>Week 2</b>                                                     | Number systems (hexadecimal, BCD, conversions, operations)                 |
| <b>Week 3</b>                                                     | Number systems (excess-3, gray code, conversions, operations, complements) |
| <b>Week 4</b>                                                     | Logic gates (AND, OR, NOT, NAND, NOR, XOR, XNOR)                           |
| <b>Week 5</b>                                                     | Logic simplification (Boolean theorem)                                     |
| <b>Week 6</b>                                                     | Logic simplification (Demorgan's theorem)                                  |
| <b>Week 7</b>                                                     | Karnaugh maps (2-variables, 3-variables,)                                  |
| <b>Week 8</b>                                                     | Karnaugh maps (4-variables (SOP, POS, don't care))                         |
| <b>Week 9</b>                                                     | Karnaugh maps (5-variables, (SOP, POS, don't care))                        |
| <b>Week 10</b>                                                    | Midterm exam                                                               |
| <b>Week 11</b>                                                    | Arithmetic operations                                                      |
| <b>Week 12</b>                                                    | Arithmetic operations (decoder, encoder)                                   |
| <b>Week 13</b>                                                    | Arithmetic operations (Multiplexer, Demultiplexer)                         |
| <b>Week 14</b>                                                    | Arithmetic operations (comparators)                                        |
| <b>Week 15</b>                                                    | Arithmetic operations (code conversion)                                    |
| <b>Week 16</b>                                                    | <b>Preparatory week before the final Exam</b>                              |

**Delivery Plan (Weekly Lab. Syllabus)**

المنهاج الاسبوعي للمختبر

|                | Material Covered                                         |
|----------------|----------------------------------------------------------|
| <b>Week 1</b>  | logic gates (NOT, AND,OR)                                |
| <b>Week 2</b>  | Logic gates (NOR.NAND)                                   |
| <b>Week 3</b>  | Logic gates (XOR,XNOR)                                   |
| <b>Week 4</b>  | Boolean theorem                                          |
| <b>Week 5</b>  | Demorgan's law                                           |
| <b>Week 6</b>  | Karnaugh map                                             |
| <b>Week 7</b>  | SOP                                                      |
| <b>Week 8</b>  | POS, don't care                                          |
| <b>Week 9</b>  | Combinational circuit (half adder, full adder)           |
| <b>Week 10</b> | Combinational circuit (Half subtractor, full subtractor) |
| <b>Week 11</b> | Decoder and Encoder circuits                             |
| <b>Week 12</b> | Multiplexer and Demultiplexer circuits                   |
| <b>Week 13</b> | Comparator circuit                                       |
| <b>Week 14</b> | Code conversion circuits                                 |

**Learning and Teaching Resources**

مصادر التعلم والتدريس

|                          | Text                                                                           | Available in the Library? |
|--------------------------|--------------------------------------------------------------------------------|---------------------------|
| <b>Required Texts</b>    | Digital Fundamentals by Floyed                                                 | Yes                       |
| <b>Recommended Texts</b> | Digital circuit analysis and design with Simulink modeling by Steven T. Karris | No                        |
| <b>Websites</b>          |                                                                                |                           |

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

## MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                     |                               |                                                                                                                                                                                                                                          |
|------------------------------------|-------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                     |                               |                                                                                                                                                                                                                                          |
| Module Title                       | Electrical Engineering Fundamentals |                               | Module Delivery                                                                                                                                                                                                                          |
| Module Type                        | Core                                |                               | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input checked="" type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |
| Module Code                        | CET1102                             |                               |                                                                                                                                                                                                                                          |
| ECTS Credits                       | 6                                   |                               |                                                                                                                                                                                                                                          |
| SWL (hr/sem)                       | 150                                 |                               |                                                                                                                                                                                                                                          |
| Module Level                       | 1                                   | Semester of Delivery          | 1                                                                                                                                                                                                                                        |
| Administering Department           | CET                                 | College                       | ETC                                                                                                                                                                                                                                      |
| Module Leader                      | Haider Faraj Hashem                 | e-mail                        | Haider.Faraj.Hashem@alayen.edu.iq                                                                                                                                                                                                        |
| Module Leader's Acad. Title        | Assistant Lecturer                  | Module Leader's Qualification | Msc                                                                                                                                                                                                                                      |
| Module Tutor                       | Mohamed Fadel                       | e-mail                        | Mohamed.Fadel@alayen.edu.iq                                                                                                                                                                                                              |
| Peer Reviewer Name                 | Assist prof. Ghadir Ibrahim Madi    | e-mail                        | Ghadir.Ibrahim@alayen.edu.iq                                                                                                                                                                                                             |
| Scientific Committee Approval Date | 18/01/2025                          | Version Number                | 1.0                                                                                                                                                                                                                                      |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <ol style="list-style-type: none"> <li>1. To develop problem solving skills and understanding of circuit theory through the application of techniques.</li> <li>2. To understand voltage, current and power from a given circuit.</li> <li>3. This course deals with the basic concept of electrical circuits.</li> <li>4. This is the basic subject for all electrical and electronic circuits.</li> <li>5. To understand Kirchhoff's current and voltage Laws problems.</li> <li>6. To perform Thevenin's Norton's Theorem.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <ol style="list-style-type: none"> <li>1. Recognize how electricity works in electrical circuits.</li> <li>2. List the various terms associated with electrical circuits.</li> <li>3. Summarize what is meant by a basic electric circuit.</li> <li>4. Discuss the reaction and involvement of atoms in electric circuits.</li> <li>5. Describe electrical power, charge, and current.</li> <li>6. Define Ohm's law.</li> <li>7. Identify the basic circuit elements and their applications.</li> <li>8. Discuss the operations of DC circuits in an electric circuit.</li> <li>9. Discuss the various properties of resistors.</li> <li>10. Explain the two Kirchhoff's laws used in circuit analysis.</li> <li>11. Identify the basic circuit elements, Maximum Power Transfer Theorem and Reciprocity Theorem.</li> <li>12. Describe Thevenin's theorem and Norton's theorem and how they work</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p>Indicative content includes the following.</p> <p>1- Definition:<br/>           Symbols and Abbreviations, Units, Electric Circuit &amp; It's Element.<br/>           The Direct Current Network. , Ohms law, Charge, Force, Work, Power.( <b>20 hr</b>)</p> <p>2-Circuit Theory:<br/>           DC circuits – Current and voltage definitions, Passive sign convention and circuit elements, Combining resistive elements in series and parallel. Kirchhoff's laws and Ohm's law. Anatomy of a circuit, Network reduction (<b>20 hr</b>)</p> <p>3-Revision problem classes :<br/>           Resistive networks, voltage and current sources, Thevenin and Norton equivalent circuits, Conversion Delta To Star Connection, Superposition</p>                                                                                                                                                             |

|                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                        | Method, Maximum Power Transfer Theorem, Reciprocity Theorem ( 20 hr)                                                                                                                                                                                                                                                                                                                                              |
| <b>Learning and Teaching Strategies</b><br>استراتيجيات التعلم والتعليم |                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Strategies</b>                                                      | Type something like: The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. |

|                                                                                |     |                                                                            |       |
|--------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------|-------|
| <b>Student Workload (SWL)</b><br>الحمل الدراسي للطالب                          |     |                                                                            |       |
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطالب خلال الفصل       | 64  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطالب أسبوعياً       | 4.26  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطالب خلال الفصل | 86  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطالب أسبوعياً | 5.733 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطالب خلال الفصل              | 150 |                                                                            |       |

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

**Delivery Plan (Weekly Syllabus)**

## المنهاج الاسبوعي النظري

|                              | Material Covered                                                                      |
|------------------------------|---------------------------------------------------------------------------------------|
| <b>Week 1</b>                | Symbols And Abbreviations, Units, Electric Circuit & It's Element.                    |
| <b>Week 2</b>                | The Direct Current Network.<br>Ohms low.                                              |
| <b>Week 3 and<br/>Week 4</b> | Series Circuits (Resistance in Series) Voltage Divider Rule.                          |
| <b>Week 5</b>                | Parallel Circuits(Resistances in Parallel) Current Divider Rule.                      |
| <b>Week 6</b>                | Open and Short Circuits, Source Transformation,                                       |
| <b>Week 7</b>                | Series-Parallel Circuits Transformation.                                              |
| <b>Week 8</b>                | Kirchhoff's Laws: - Kirchhoff's current law (KCL) and. Their Use In Network Analysis. |
| <b>Week 9</b>                | Kirchhoff's voltage law (KVL).and Their Use In Network Analysis                       |
| <b>Week 10</b>               | Midterm exam                                                                          |
| <b>Week 11</b>               | Conversion Delta To Star Connection And Conversion Star To Delta Connection ,         |
| <b>Week 12</b>               | Superposition Method ,                                                                |
| <b>Week 13</b>               | Thevenin's Theorem , Norton's Theorem                                                 |
| <b>Week 14</b>               | Maximum Power Transfer Theorem                                                        |
| <b>Week 15</b>               | Reciprocity Theorem                                                                   |

**Delivery Plan (Weekly Lab. Syllabus)**

## المنهاج الاسبوعي للمختبر

|               | Material Covered                                                 |
|---------------|------------------------------------------------------------------|
| <b>Week 1</b> | How to use ammeter, voltmeter and ohmmeter.                      |
| <b>Week 2</b> | Apply Ohm's Law                                                  |
| <b>Week 3</b> | Apply Kirchhoff's law to measure current                         |
| <b>Week 4</b> | Apply Kirchhoff's law to measure voltages                        |
| <b>Week 5</b> | Superposition Method                                             |
| <b>Week 6</b> | Norton's Theorem.                                                |
| <b>Week 7</b> | Thévenin's Theorem.                                              |
| <b>Week 8</b> | Delta To Star Connection And Conversion Star To Delta Connection |

| 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               | DC Electrical Circuit Analysis: A Practical Approach<br>Copyright Year: 2020, dissidents.                                                                                                     | No                        |
| Websites                        | <a href="https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering">https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering</a> |                           |

| Grading Scheme                                                                                                                                                                                                                                                                                                                                                                       |                  |                     |           |                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------|-----------|---------------------------------------|
| مخطط الدرجات                                                                                                                                                                                                                                                                                                                                                                         |                  |                     |           |                                       |
| Group                                                                                                                                                                                                                                                                                                                                                                                | Grade            | التقدير             | Marks (%) | Definition                            |
| Success Group<br>(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<br>(0 – 49)                                                                                                                                                                                                                                                                                                                                                               | FX – Fail        | راسب (قيد المعالجة) | (45-49)   | More work required but credit awarded |
|                                                                                                                                                                                                                                                                                                                                                                                      | F – Fail         | راسب                | (0-44)    | Considerable amount of work required  |
|                                                                                                                                                                                                                                                                                                                                                                                      |                  |                     |           |                                       |
| <b>Note:</b> Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above. |                  |                     |           |                                       |

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## نموذج وصف المادة الدراسية

| Module Information                 |                                      |                      |                                                                                                                                                                                                                                          |                               |
|------------------------------------|--------------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| معلومات المادة الدراسية            |                                      |                      |                                                                                                                                                                                                                                          |                               |
| Module Title                       | Mathematics I                        |                      | Module Delivery                                                                                                                                                                                                                          |                               |
| Module Type                        | Support or related learning activity |                      | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input type="checkbox"/> Lab<br><input checked="" type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |                               |
| Module Code                        | CET1103                              |                      |                                                                                                                                                                                                                                          |                               |
| ECTS Credits                       | 5                                    |                      |                                                                                                                                                                                                                                          |                               |
| SWL (hr/sem)                       | 125                                  |                      |                                                                                                                                                                                                                                          |                               |
| Module Level                       | 1                                    | Semester of Delivery |                                                                                                                                                                                                                                          | 1                             |
| Administering Department           | CET                                  | College              | ETC                                                                                                                                                                                                                                      |                               |
| Module Leader                      | Iman Mahdi                           |                      | e-mail                                                                                                                                                                                                                                   | Iman.Mahdi@alayer.edu.iq      |
| Module Leader's Acad. Title        | Assistant Lecturer                   |                      | Module Leader's Qualification                                                                                                                                                                                                            | M.Sc.                         |
| Module Tutor                       | Haneen Jawad Abood                   |                      | e-mail                                                                                                                                                                                                                                   | Baneen.shuaibth@alayer.edu.iq |
| Peer Reviewer Name                 | Assist prof. Ghadir Ibrahim Madi     |                      | e-mail                                                                                                                                                                                                                                   | Ghadir.Ibrahim@alayer.edu.iq  |
| Scientific Committee Approval Date | 18/01/2025                           | Version Number       | 1.0                                                                                                                                                                                                                                      |                               |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <ol style="list-style-type: none"> <li>1. This course deals with differential and integral calculus.</li> <li>2. To develop problem solving skills and understanding of preliminaries to differential calculus.</li> <li>3. To understand differentiation, and differentiation methods.</li> <li>4. To perform applications using the derivative.</li> <li>5. To get a good grasp of Integrals, and Integration methods.</li> <li>6. To understand the relationship between differentiation and integration.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <ol style="list-style-type: none"> <li>1. Recognize Line and Circle Equation and related evaluating formulas.</li> <li>2. List the various terms associated with Functions and their Types.</li> <li>3. Discuss the Limit and Continuity of a Function.</li> <li>4. Describe the Definition of a derivative as a limit, Differentiation Rules, and various types of Function's Derivatives.</li> <li>5. Identify when to use different Differentiation Methods.</li> <li>6. Discuss the Curve Sketching process, and the L'Hospital's Rule.</li> <li>7. Analyze Taylor and Maclaurin Series.</li> <li>8. Identify the Indefinite Integrals.</li> <li>9. Explain the Integration Methods u-substitution, By parts.</li> <li>10. Explain the Integration Methods Involving Trigonometric Functions, Trigonometric substitution.</li> <li>11. Explain the Integration Method Rational Functions by Partial Fractions.</li> <li>12. Explain the Integration Methods Functions Involving Roots, and Functions Involving Quadratics.</li> <li>13. Recognize the Definite Integral and its Application Area Under a Curve.</li> <li>14. Discuss the Definite Integral Applications Arc Length, Average Value of a Function.</li> <li>15. Discuss the Definite Integral Applications Areas Between Two Curves.</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p><u>Part A - Preliminaries to differential calculus.</u><br/> This part includes the Line and Circle Equation and related evaluating formulas and parameters. Furthermore, main mathematical Functions characteristics Domain, Range, Odd, Even, and their Types. Finally, The Limit and Continuity of a Function Laws, the behavior At Infinity, followed by important Special Limits, then the Continuity Conditions. <b>[9 hrs]</b> + Revision problem classes in weekly tutorials <b>[3 hrs]</b></p> <p><u>Part B – Differential calculus.</u><br/> This part will take in details the first key subject of the semester, the Differentiation process from the prospective of Definition as limit, Differentiation Rules, and Function-Derivative Table. Which will be followed by Differentiation Methods namely the Implicit, Logarithmic, and The Chain Rule. Furthermore, four Applications of differentiation will be discussed the Curve Sketching, L'Hospital's Rule, and Taylor and Maclaurin Series. <b>[12 hrs]</b> + Revision problem classes in weekly tutorials <b>[5 hrs]</b></p>                                                                                                                                                                                                             |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><u>Part C – Integral calculus.</u></p> <p>This part discusses the second key subject the Integration of functions. Followed by dissecting the main Integration Methods, u-substitution, By parts, Involving Trigonometric Functions, Trigonometric substitution, Rational Functions by Partial Fractions, Functions Involving Roots, and Functions Involving Quadratics. Furthermore, it will consider six definite Integral applications, namely The Area Under a Curve, Arc Length, Average Value of a Function, and Areas Between two Curves. <b>[22 hrs]</b> + Revision problem classes in weekly tutorials <b>[8 hrs]</b></p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Learning and Teaching Strategies</b><br>استراتيجيات التعلم والتعليم |                                                                                                                                                                                                                                                              |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategies</b>                                                      | <p>This module will primarily focus on encouraging students to participate in the activities, as well as refining and developing their critical thinking skills. This will be achieved through lectures, tutorials, discussions, and grading activities.</p> |

| <b>Student Workload (SWL)</b><br>الحمل الدراسي للطلاب موزع على ١٥ اسبوع        |     |                                                                           |      |
|--------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطلاب خلال الفصل       | 48  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطلاب أسبوعيا       | 3.2  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطلاب خلال الفصل | 77  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطلاب أسبوعيا | 5.13 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطلاب خلال الفصل              | 125 |                                                                           |      |

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

| <b>Delivery Plan (Weekly Syllabus)</b><br>المنهاج الاسبوعي النظري |                                                                                                                                       |
|-------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
|                                                                   | Material Covered                                                                                                                      |
| Week 1                                                            | Line and Circle Equation. Functions (Domain, Range, Odd, Even, Types.)                                                                |
| Week 2                                                            | The Limit and Continuity of a Function (Laws, At Infinity, Special Limits, Continuity Conditions.)                                    |
| Week 3                                                            | Differentiation (Definition as limit, Differentiation Rules, Function-Derivative Table.)                                              |
| Week 4                                                            | Differentiation Methods (Implicit, Logarithmic, The Chain Rule.)                                                                      |
| Week 5                                                            | Midterm Exam                                                                                                                          |
| Week 6                                                            | Applications of Differentiation (Curve Sketching, L'Hospital's Rule.), Applications of Differentiation (Taylor and Maclaurin Series.) |
| Week 7                                                            | Introduction to Indefinite Integrals, Integration Methods (u-substitution, By parts.)                                                 |
| Week 8                                                            | Integration Methods (Involving Trigonometric Functions, Trigonometric substitution.)                                                  |
| Week 9                                                            | Integration Methods (Integration of Rational Functions by Partial Fractions.)                                                         |
| Week 10                                                           | Midterm Exam                                                                                                                          |
| Week 11                                                           | Integration Methods (Functions Involving Roots, Functions Involving Quadratics.)                                                      |
| Week 12                                                           | Midterm Exam                                                                                                                          |
| Week 13                                                           | Definite Integral and Applications (Definite Integral, Area Under a Curve.)                                                           |
| Week 14                                                           | Definite Integral and Applications (Arc Length, Average Value of a Function.)                                                         |
| Week 15                                                           | Definite Integral and Applications (Areas Between two Curves)                                                                         |
| Week 16                                                           | Preparatory week before the final Exam                                                                                                |

| <b>Delivery Plan (Weekly Tutorial)</b><br>المنهاج الاسبوعي الاضافي                                                   |                  |
|----------------------------------------------------------------------------------------------------------------------|------------------|
|                                                                                                                      | Material Covered |
| Each week, a question sheet related to the material presented in the theoretical lecture will be solved and debated. |                  |

| <b>Learning and Teaching Resources</b><br>مصادر التعلم والتدريس |                                                                                                                                                                             |                           |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|                                                                 | Text                                                                                                                                                                        | Available in the Library? |
| Required Texts                                                  | Joel R. Hass, Christopher E. Heil, Maurice D. Weir, "Thomas' Calculus: Early Transcendentals", Pearson Education, 14th Edition, (January 1, 2017), ISBN-13: 978-0134439020. | Yes                       |
| Recommended Texts                                               | Anthony Croft, Robert Davison, "Mathematics for Engineers: A Modern Interactive Approach", Prentice Hall, 3rd edition, (January 1, 2008), ISBN-13: 978-0132051569.          | No                        |

|                 |                                                                                                                             |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>Websites</b> | <a href="https://www.khanacademy.org/math/differential-calculus">https://www.khanacademy.org/math/differential-calculus</a> |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------|

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                       |                               |                                                                                                                                                                                                                               |
|------------------------------------|---------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                       |                               |                                                                                                                                                                                                                               |
| Module Title                       | Engineering Drawing                   |                               | Module Delivery                                                                                                                                                                                                               |
| Module Type                        | Support or related learning activity  |                               | <input type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input checked="" type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |
| Module Code                        | CET1104                               |                               |                                                                                                                                                                                                                               |
| ECTS Credits                       | 5                                     |                               |                                                                                                                                                                                                                               |
| SWL (hr/sem)                       | 125                                   |                               |                                                                                                                                                                                                                               |
| Module Level                       | 1                                     | Semester of Delivery          |                                                                                                                                                                                                                               |
| Administering Department           | CET                                   | College                       | ETC                                                                                                                                                                                                                           |
| Module Leader                      | Ihsan Abdul Al-Kadhim                 | e-mail                        | Ihsan.Abdul.Kadhim@alayer.edu.iq                                                                                                                                                                                              |
| Module Leader's Acad. Title        | Asst. lecturer                        | Module Leader's Qualification | MSC.                                                                                                                                                                                                                          |
| Module Tutor                       | Mustafa Mohsen Ghaithan Al-Badir      | e-mail                        | mostafa.albdair@alayer.edu.iq                                                                                                                                                                                                 |
| Peer Reviewer Name                 | Asst. Prof.<br>Ghadir Ibrahim<br>Madi | e-mail                        | Ghadir.Ibrahim@alayer.edu.iq                                                                                                                                                                                                  |
| Scientific Committee Approval Date | 18/01/2025                            | Version Number                | 1.0                                                                                                                                                                                                                           |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <ol style="list-style-type: none"> <li>1. To develop spatial visualization skills: Enhance your ability to visualize and mentally manipulate objects in three-dimensional space based on two-dimensional drawings. Strengthen your spatial awareness and improve your understanding of complex engineering design</li> <li>2. Learn sketching and taking field dimensions.</li> <li>3. Take data and transform it into graphic drawings.</li> <li>4. Learn basic engineering drawing formats.</li> <li>5. Learn basic AutoCAD skills.</li> <li>6. Learn how to draw 2D drawings in AutoCAD.</li> </ol>                                                                                                                                                                                                                                                                                                                           |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <ol style="list-style-type: none"> <li>1. Identify the basic of AutoCAD</li> <li>2. Explain Drawing settings</li> <li>3. How to drawing: Point, Line, Multiline, P line, Spline, X line, Rectangle.</li> <li>4. How to drawing: Donut, Polygon, Circle, Arc, Ellipse</li> <li>5. List Modify Tools<br/>Identify: Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror,</li> <li>6. Identify Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet.</li> <li>7. Explain Zoom, Pan.</li> <li>8. How to assign: Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions.</li> <li>9. Dealing with: Text, Style, M text, Scale text, Spell,</li> <li>10. Knowing the Hatching Objects.</li> <li>11. Drawing 3d modeling.</li> <li>12. Drawing the Exercises .</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p>Indicative content includes the following.</p> <p>--<b>AutoCAD Software</b>, drawing settings, Drawing Tools, Line, Circle, Arc, Ellipse, Donut, Polygon, Rectangle, Point, Multiline, P line, Spline, X line. <b>[20 hrs.]</b></p> <p>--<b>Modify Tools</b><br/>Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. <b>[4 hrs.]</b></p> <p>--<b>Display Control</b> Zoom, Pan, Redraw, Clean Screen. <b>[4 hrs.]</b></p>                                                                                                                                                                                                                                                                                                                                                                                                             |

|  |                                                                                                                                                                                                                                                                                                                                                                                                               |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>--<b>Dimension</b> - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions. <b>[4 hrs.]</b></p> <p>--Hatching Objects <b>[4hrs]</b></p> <p>--<b>Text</b>, Style, M text, Scale text, Spell, <b>[4 hrs.]</b></p> <p>--<b>3D MODELLING, Convert 2D to 3D, Solid Editing [20 hrs.]</b></p> |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Learning and Teaching Strategies</b><br><b>استراتيجيات التعلم والتعليم</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategies</b>                                                             | <ol style="list-style-type: none"> <li>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. with introductory tutorials or online resources that cover the basics of AutoCAD.</li> <li>2. 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.</li> <li>3. 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.</li> <li>4. 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.</li> <li>5. 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.</li> </ol> |

| Student Workload (SWL)<br>الحمل الدراسي للطالب موزع على ١٥ اسبوع               |     |                                                                           |      |
|--------------------------------------------------------------------------------|-----|---------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطالب خلال الفصل       | 48  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطالب أسبوعيا       | 3.2  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطالب خلال الفصل | 77  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطالب أسبوعيا | 5.13 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطالب خلال الفصل              | 125 |                                                                           |      |

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

| Delivery Plan (Weekly Lab. Syllabus)<br>المنهاج الاسبوعي للمختبر |                                    |
|------------------------------------------------------------------|------------------------------------|
|                                                                  | Material Covered                   |
| Week 1                                                           | Introducing of Engineering Drawing |
| Week 2                                                           | Drawing settings of AutoCAD        |
| Week 3                                                           | Drawing Tools                      |

|                   |                                                                                                                                                                                                                 |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | Point, Line ,Multiline, P line, Spline, X line.                                                                                                                                                                 |
| <b>Week 4</b>     | Rectangle, Donut, Polygon                                                                                                                                                                                       |
| <b>Week 5</b>     | Circle, Arc, Ellipse                                                                                                                                                                                            |
| <b>Week 6</b>     | Modify Tools<br>Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet. Display Control<br>Zoom, Pan, Redraw, Clean Screen. |
| <b>Week 7</b>     | Mid exam                                                                                                                                                                                                        |
| <b>Week 8</b>     | Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle, Arc length, Continuous, Baseline, Tolerance, Dimension Space, Dimension Break, Jogged radius, Ordinate dimensions                            |
| <b>Week 9</b>     | Annotation Tools<br>Text, Style, M text, Scale text, Spell                                                                                                                                                      |
| <b>Week 10</b>    | Hatching Objects                                                                                                                                                                                                |
| <b>Week 11,12</b> | 3D modeling                                                                                                                                                                                                     |
| <b>Week13</b>     | Convert 2D To 3D                                                                                                                                                                                                |
| <b>Week 14</b>    | Solid Editing                                                                                                                                                                                                   |
| <b>Week 15</b>    | Exercises drawing                                                                                                                                                                                               |
| <b>Week 16</b>    | Preparatory week before the final Exam                                                                                                                                                                          |

| Learning and Teaching Resources<br>مصادر التعلم والتدريس |                                                                                              |                           |
|----------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------|
|                                                          | Text                                                                                         | Available in the Library? |
| Required Texts                                           | Introduction to AutoCAD 2010<br>By Alf Yarwood<br>Copyright 2009                             | Yes                       |
| Recommended Texts                                        | An Introduction to Autodesk Inventor 2010 and AutoCAD<br>2010 Unbnd Edition<br>by Randy Shih | No                        |
| Websites                                                 |                                                                                              |                           |

| Grading Scheme<br>مخطط الدرجات                                                                                                                                                                                                                                                                                                                                                       |                  |                     |           |                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------|-----------|---------------------------------------|
| Group                                                                                                                                                                                                                                                                                                                                                                                | Grade            | التقدير             | Marks (%) | Definition                            |
| Success Group<br>(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<br>(0 – 49)                                                                                                                                                                                                                                                                                                                                                               | FX – Fail        | راسب (قيد المعالجة) | (45-49)   | More work required but credit awarded |
|                                                                                                                                                                                                                                                                                                                                                                                      | F – Fail         | راسب                | (0-44)    | Considerable amount of work required  |
|                                                                                                                                                                                                                                                                                                                                                                                      |                  |                     |           |                                       |
| <b>Note:</b> Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above. |                  |                     |           |                                       |

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                      |                      |                                                                                                                                                                                                                               |                                                                                  |
|------------------------------------|--------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                      |                      |                                                                                                                                                                                                                               |                                                                                  |
| Module Title                       | Engineering Workshops                |                      | Module Delivery                                                                                                                                                                                                               |                                                                                  |
| Module Type                        | Support or related learning activity |                      | <input type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input checked="" type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |                                                                                  |
| Module Code                        | CET1105                              |                      |                                                                                                                                                                                                                               |                                                                                  |
| ECTS Credits                       | 6                                    |                      |                                                                                                                                                                                                                               |                                                                                  |
| SWL (hr/sem)                       | 150                                  |                      |                                                                                                                                                                                                                               |                                                                                  |
| Module Level                       | 1                                    | Semester of Delivery |                                                                                                                                                                                                                               | 1                                                                                |
| Administering Department           | CET                                  | College              | ETC                                                                                                                                                                                                                           |                                                                                  |
| Module Leader                      | Abbas Kamel Ghadban                  |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:Abbas.Kamel@alayer.edu.iq">Abbas.Kamel@alayer.edu.iq</a>         |
| Module Leader's Acad. Title        | Ass. Lecturer                        |                      | Module Leader's Qualification                                                                                                                                                                                                 | MSc                                                                              |
| Module Tutor                       | Baneen shuaibth bzaiea               |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:Baneen.shuaibth@alayer.edu.iq">Baneen.shuaibth@alayer.edu.iq</a> |
| Peer Reviewer Name                 | Dr. Magdy Adel Abdelhay              |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:Magdy.Adel@alayer.edu.iq">Magdy.Adel@alayer.edu.iq</a>           |
| Scientific Committee Approval Date | 18/01/2025                           | Version Number       | 1.0                                                                                                                                                                                                                           |                                                                                  |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <p>The objective of studying Electrical, Electronic, and Mechanical workshops is to enable students to acquire the necessary skills and knowledge to deal with electrical, electronic, and mechanical systems and devices. This subject aims to teach students how to diagnose faults, repair systems, and perform maintenance on these systems and devices.</p> <p>By studying Electrical, Electronic, and Mechanical workshops, students can understand the principles of electricity, electronics, and mechanics, as well as how to read engineering diagrams and use various tools and equipment to work on them. They also learn how to diagnose faults, repair them, and properly maintain different devices in a safe manner.</p> <p>In general, studying this subject aims to prepare students to become skilled technicians in the field of electrical, electronic, and mechanical engineering. They can work in areas such as industrial maintenance and repair, electrical and electronic installations, automation and robotics, medical devices, and other modern technologies</p>                                                                                                                                                                                                                                                                                                                                        |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <p>The learning outcomes of studying Electrical, Electronic, and Mechanical workshops include:</p> <ol style="list-style-type: none"> <li>1. Acquisition of diagnostic and repair skills: Students learn how to analyze problems, identify faults in electrical, electronic, and mechanical systems, and implement appropriate repair procedures.</li> <li>2. Understanding of electrical, electronic, and mechanical principles: Students gain knowledge of engineering and technical fundamentals related to electricity, electronics, and mechanics, including reading engineering diagrams and practical understanding of circuits, electronic devices, and mechanical components.</li> <li>3. Development of practical work skills: Students have the opportunity to learn hands-on and practice using various tools and equipment used in electrical, electronic, and mechanical workshops.</li> <li>4. Ability to perform preventive maintenance: Students learn how to maintain systems and devices and carry out preventive maintenance to ensure proper and sustainable performance.</li> <li>5. Enhancement of teamwork and communication skills: Studying Electrical, Electronic, and Mechanical workshops promotes collaboration among students and the ability to work as a team in problem-solving and executing practical projects.</li> <li>6. Knowledge and Understanding: a. Demonstrate a comprehensive</li> </ol> |

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                           | <p>understanding of the principles and concepts related to electrical and mechanical workshop operations. b. Identify and explain the safety measures and regulations applicable to electrical and mechanical workshops.</p> <p>7. Describe the different tools, machines, and materials used in electrical and mechanical workshops.</p> <p>8. Practical Skills: a. Apply safe working practices and use appropriate personal protective equipment (PPE) in electrical and mechanical workshop environments. b. Demonstrate proficiency in using various tools and equipment for turning, filing, drilling, welding, and assembly.</p> <p>9. Perform practical tasks related to electrical and mechanical workshop operations accurately and efficiently. d. Apply problem-solving techniques to troubleshoot and rectify common issues encountered in electrical and mechanical workshop activities.</p> <p>10. Critical Thinking and Analysis: a. Analyze and evaluate different turning processes, instrumentation measures, and cutting tools used in the workshop. b. Assess the quality of filing processes and choose appropriate rasps and tools for different filing tasks.</p> <p>11. Evaluate the drilling processes and select suitable drilling tools based on specific requirements. d. Analyze welding processes, including oxy-acetylene and arc welding, and determine safety precautions and best practices.</p> <p>12. Communication and Collaboration: a. Effectively communicate and collaborate with peers in group projects and workshop activities. b. Present findings, results, and recommendations related to electrical and mechanical workshop tasks in a clear and concise manner.</p> <p>13. Professional and Ethical Responsibility: a. Demonstrate ethical behavior and responsibility in adhering to safety regulations, environmental considerations, and industry standards in electrical and mechanical workshop practices</p> <p>14. Overall, studying this subject prepares students to enter the job market in various technical and engineering fields, such as industrial maintenance, electrical and electronic installations, automation and robotics, medical devices, and other modern technologies.</p> |
| <p><b>Indicative Contents</b><br/>المحتويات الإرشادية</p> | <p>Indicative content includes the following.</p> <p><u>Part A – Electronic workshop</u></p> <p>In this part, we will learn how to check the elements in the electrical circuits, what is the way each element works, how to check it, and find out what is damaged and replace it. [14 hrs.]</p> <p>We will also talk about conductors and semiconductors [10 hrs.]</p> <p><u>Part B – Electrical workshop</u></p> <ol style="list-style-type: none"> <li>1. Principles of Industrial Safety in Electrical Workshops [4 hrs.]</li> <li>2. Tools Used in Electrical Workshops [5 hrs.]</li> <li>3. Power Sources and Characteristics [5 hrs.]</li> <li>4. Multimeter and Wire Size Measurement [5 hrs.]</li> </ol> <p><u>Part C – Mechanical workshop</u></p> <ol style="list-style-type: none"> <li>1. Different Types of Welding Irons and Spot Welding [4 hrs.]</li> <li>2. Electric Transformers [5 hrs.]</li> <li>3. Electric Circuits and Transformer Operation [5 hrs.]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

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|  | 4. Types of Electric Motors [5 hrs.] |
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| <b>Learning and Teaching Strategies</b><br><b>استراتيجيات التعلم والتعليم</b> |                                                                                                                                                                                                                                                                                                                                                                                           |
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| <b>Strategies</b>                                                             | The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. This will be achieved through labs, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students. |

| <b>Student Workload (SWL)</b><br><b>الحمل الدراسي للطلاب موزع على ١٥ اسبوع</b> |     |                                                                            |      |
|--------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطلاب خلال الفصل       | 64  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطلاب أسبوعياً       | 4.26 |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطلاب خلال الفصل | 86  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطلاب أسبوعياً | 5.73 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطلاب خلال الفصل              | 150 |                                                                            |      |

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

| <b>Delivery Plan (Weekly Syllabus)</b><br>المنهاج الاسبوعي للمختبر<br><b>Electronic, Electrical , Mechanical Workshops</b> |                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                                            | Material Covered                                                                                                                                                                                                                                                                    |
| Week 1,2                                                                                                                   | <ul style="list-style-type: none"> <li>❖ Use different measuring devices in the workshop</li> <li>❖ 1- Principles of Industrial Safety in Electrical Workshops.</li> <li>2- Different Types of Welding Irons (with different capacities) and Spot Welding</li> </ul>                |
| Week 3,4                                                                                                                   | <ul style="list-style-type: none"> <li>❖ How to use irons, types of soldering used, and how to use absorbent soldering irons</li> <li>❖ 1- Electric Circuits and Transformer Operation.</li> <li>2- Electrical Installations and Types of Wiring (Surface and Concealed)</li> </ul> |
| Week 5,6,7                                                                                                                 | <ul style="list-style-type: none"> <li>❖ Electronic components (resistor , inductors , capacitors)</li> <li>❖ 1- ONE LAMP CONTROLLED BY ONE SWITCH</li> <li>2- Parallel Wiring of Two Lamps with a Switch and Socket</li> </ul>                                                     |
| Week 8                                                                                                                     | ❖ Midterm Exam                                                                                                                                                                                                                                                                      |
| Week 9 ,10                                                                                                                 | Electronic components (resistor , inductors , capacitors)<br>Drawing a Staircase Lamp (Two-Way Switch) Circuit                                                                                                                                                                      |
| Week 11,12                                                                                                                 | <ul style="list-style-type: none"> <li>❖ Electronic components (Battery , jumper, fuse, push button, switch, rotary switch)</li> <li>❖ 1- Introduction to Workshop Safety</li> <li>2- Turning Process and Instrumentation Measures</li> </ul>                                       |
| Week 13,14                                                                                                                 | <ul style="list-style-type: none"> <li>❖ Electronic components (Diode , Transistor, Transformer)</li> <li>❖ 1- Cutting Tools</li> <li>2- Practical Exercise - Horizontal Turning</li> </ul>                                                                                         |
| Week 15                                                                                                                    | <ul style="list-style-type: none"> <li>❖ using bread board and Vero board, Building a Circuit on Breadboard, Building a Circuit on Vero board</li> <li>❖ 1- Turning Different Shapes</li> <li>2- Introduction to Filing Process ( practical Exercise)</li> </ul>                    |

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| <b>Week 16</b> | <b>Final Exam</b> |
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| <b>Learning and Teaching Resources</b><br><b>مصادر التعلم والتدريس</b> |                                                                                                                                                       |                                  |
|------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
|                                                                        | <b>Text</b>                                                                                                                                           | <b>Available in the Library?</b> |
| <b>Required Texts</b>                                                  | 1-Encyclopedia of Electronic Components Volume 1 (Charles Platt).<br>2- J. Smith and E. Johnson, "Electrical Engineering Workshop:Theory and Practice | Yes / <b>online</b>              |
| <b>Recommended Texts</b>                                               |                                                                                                                                                       | No                               |
| <b>Websites</b>                                                        |                                                                                                                                                       |                                  |

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

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                           |                               |                                                                                                                                                                                                                                          |
|------------------------------------|---------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                           |                               |                                                                                                                                                                                                                                          |
| Module Title                       | English Language I        |                               | Module Delivery                                                                                                                                                                                                                          |
| Module Type                        | Basic learning activities |                               | <input checked="" type="checkbox"/> Theory<br><input checked="" type="checkbox"/> Lecture<br><input type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |
| Module Code                        | MTU1002                   |                               |                                                                                                                                                                                                                                          |
| ECTS Credits                       | 2                         |                               |                                                                                                                                                                                                                                          |
| SWL (hr/sem)                       | 50                        |                               |                                                                                                                                                                                                                                          |
| Module Level                       | 1                         | Semester of Delivery          | 1                                                                                                                                                                                                                                        |
| Administering Department           | CET                       | College                       | ETC                                                                                                                                                                                                                                      |
| Module Leader                      | Ali Al-haaq               | e-mail                        | <a href="mailto:Ali.alhaaq@alayer.edu.iq">Ali.alhaaq@alayer.edu.iq</a>                                                                                                                                                                   |
| Module Leader's Acad. Title        | Asst. Lecture             | Module Leader's Qualification | Msc                                                                                                                                                                                                                                      |
| Module Tutor                       | Ali Al-haaq               | e-mail                        | <a href="mailto:Ali.alhaaq@alayer.edu.iq">Ali.alhaaq@alayer.edu.iq</a>                                                                                                                                                                   |
| Peer Reviewer Name                 | Dr. Magdy Adel Abdelhay   | e-mail                        | <a href="mailto:Magdy.Adel@alayer.edu.iq">Magdy.Adel@alayer.edu.iq</a>                                                                                                                                                                   |
| Scientific Committee Approval Date | 18/01/2025                | Version Number                | 1.0                                                                                                                                                                                                                                      |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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| <b>Module Objectives</b><br><b>أهداف المادة الدراسية</b>                                                                         | <ol style="list-style-type: none"> <li>1. know students with essential information in the English language in association with reading, writing and speaking skills, and knowing more English vocabulary.</li> <li>2. To understand pronouns, questions and short answers, tenses (present, past and future), adjective, adverb, prepositions of place, punctuation marks and practicing writing.</li> <li>3. This module works towards enhancing students' English language competencies along with their technical or professional knowledge.</li> <li>4. Enhance students' communication skills in English can result in better job opportunities in the future</li> </ol>                                                     |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <p>The student will have the ability to:</p> <ol style="list-style-type: none"> <li>1. Know the English skills of reading, and writing.</li> <li>2. Recognize other English language skills such as: grammar, vocabulary.</li> <li>3. Understand and appreciate the importance of grammar aspects and vocabulary to increase the ability of communicating ideas about the English language.</li> <li>4. Understand pronouns, questions and short answers.</li> <li>5. Understand tenses present, past and future.</li> <li>6. Understand adjectives, adverbs, prepositions of place, and punctuation marks.</li> <li>7. Practicing reading and writing.</li> <li>8. Enhance students' communication skills in English.</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p>Indicative content includes the following.</p> <p><b><u>Part A: Parts of Sentence.</u></b></p> <p>Pronoun, question and short answer, adjective, adverb, prepositions of place. [14 hrs]</p> <p><b><u>Part B: Tenses</u></b></p> <p>Past Tense, Present Tense, and Future Tense. [8 hrs]</p> <p><b><u>Part C: Reading and Writing</u></b></p> <p>Punctuation marks, and practicing writing [8 hrs]</p>                                                                                                                                                                                                                                                                                                                         |

| <b>Learning and Teaching Strategies</b><br><b>استراتيجيات التعلم والتعليم</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategies</b>                                                             | <p>The main strategies that will be adopted in delivering this module are:</p> <ul style="list-style-type: none"> <li>- Allow students to actively participate in the learning process with class discussions and exercises that support the initiative.</li> <li>- Use didactic questioning through questions to determine student understanding of the material.</li> <li>- Writing an assignment and report that encourages students to clarify and organize their thinking and independently research and present on a topic.</li> </ul> |

| Student Workload (SWL)                                                         |    |                                                                           |      |
|--------------------------------------------------------------------------------|----|---------------------------------------------------------------------------|------|
| الحمل الدراسي للطلاب محسوب ل ١٥ أسبوعا                                         |    |                                                                           |      |
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطلاب خلال الفصل       | 33 | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطلاب أسبوعيا       | 2.2  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطلاب خلال الفصل | 17 | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطلاب أسبوعيا | 1.13 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطلاب خلال الفصل              | 50 |                                                                           |      |

| Module Evaluation     |                 |             |                  |          |                           |
|-----------------------|-----------------|-------------|------------------|----------|---------------------------|
| تقييم المادة الدراسية |                 |             |                  |          |                           |
|                       |                 | Time/Number | Weight (Marks)   | Week Due | Relevant Learning Outcome |
| Formative assessment  | Quizzes         | 2           | 20% (20)         | 5, 10    | LO # 1-3 , 4- 7           |
|                       | Assignments     | 2           | 10% (10)         | Cont.    | LO # 1- 7                 |
|                       | Projects / Lab. |             |                  |          |                           |
|                       | Report          | 1           | 10% (10)         | 14       | 1-8                       |
| Summative assessment  | Midterm Exam    | 2 hours     | 10% (10)         | 8        | LO # 1-5                  |
|                       | Final Exam      | 3 hours     | 50% (50)         | 16       | All                       |
| Total assessment      |                 |             | 100% (100 Marks) |          |                           |

| Delivery Plan (Weekly Syllabus) |                                                                                                                                      |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| المنهاج الاسبوعي النظري         |                                                                                                                                      |
|                                 | Material Covered                                                                                                                     |
| Week 1                          | <b>Unit 1:</b> Grammar: Types of Pronouns<br>Vocabulary: Everyday objects, Plurals<br>Reading and Writing Skill                      |
| Week 2                          | <b>Unit 2:</b> Grammar: Pronoun, Questions<br>Vocabulary: Countries, Adjective and Nouns<br>Reading and Writing Skill                |
| Week 3                          | <b>Unit 3:</b> Grammar: Negatives, Questions and short answer<br>Vocabulary: Jobs, Personal Information<br>Reading and Writing Skill |

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| <b>Week 4</b>  | <b>Unit 4:</b> Grammar: Possessive adjectives, Possessive 's, common verbs (1): has/have, love, like, work.<br>Vocabulary: The family, The alphabet<br>Reading and Writing Skill                                                                                                           |
| <b>Week 5</b>  | <b>Unit 5:</b> Present Simple, Questions<br>Vocabulary: Sport, Food and Drink, Verb phrase, Languages and nationalities, Adjective + noun.<br>Reading and Writing Skill                                                                                                                    |
| <b>Week 6</b>  | <b>Unit 6:</b> Grammar: Adverbs of frequency (sometimes, always, never), Questions and Negatives.<br>Vocabulary: The Time, Word that go together<br>Reading and Writing Skill                                                                                                              |
| <b>Week 7</b>  | <b>Unit 7:</b> Grammar: Question words, Pronouns (subject, object, possessive), that and this.<br>Vocabulary: Adjectives<br>Reading and Writing Skill<br>Grammar: There is/There are, Prepositions of place<br>Vocabulary: Rooms and furniture, Place of town<br>Reading and Writing Skill |
| <b>Week 8</b>  | <b>Mid exam</b>                                                                                                                                                                                                                                                                            |
| <b>Week 9</b>  | <b>Unit 9:</b> Grammar: Past Simple Tense - regular verbs<br>Vocabulary: years, have, do, go<br>Reading and Writing Skill                                                                                                                                                                  |
| <b>Week 10</b> | <b>Unit 10:</b> Grammar: Past Simple Tense - irregular verbs, Questions and Negatives, Time expression, ago.<br>Vocabulary: Weekend activities, Sport and leisure<br>Reading and Writing Skill                                                                                             |
| <b>Week 11</b> | <b>Unit 11:</b> Grammar: can/can't, Adverbs, Request and offers.<br>Vocabulary: Verb + noun, Adjective + noun, Opposite adjective<br>Reading and Writing Skill                                                                                                                             |
| <b>Week 12</b> | <b>Unit 12:</b> Grammar: Would like, some and any, like and would like<br>Vocabulary: Places and town, In cafe<br>Reading and Writing Skill                                                                                                                                                |
| <b>Week 13</b> | <b>Unit 13:</b> Grammar: Present Continuous Tense<br>Vocabulary: Colors, Clothes, Opposite verbs<br>Reading and Writing Skill                                                                                                                                                              |
| <b>Week 14</b> | <b>Unit 14:</b> Grammar: Future Tense, going to<br>Vocabulary: Forms of transport<br>Reading and Writing Skill                                                                                                                                                                             |
| <b>Week 15</b> | Grammar: Punctuation Marks, Grammar revision<br>Vocabulary: Vocabulary revision<br>Reading and Writing Skill                                                                                                                                                                               |
| <b>Week 16</b> | <b>Preparatory week before the final Exam</b>                                                                                                                                                                                                                                              |

| Learning and Teaching Resources |                                                                                                 |                           |
|---------------------------------|-------------------------------------------------------------------------------------------------|---------------------------|
| مصادر التعلم والتدريس           |                                                                                                 |                           |
|                                 | Text                                                                                            | Available in the Library? |
| Required Texts                  | New Headway Plus/ Beginner, John and Liz Soars, Oxford University Press                         | No                        |
| Recommended Texts               | Understanding and Using English Grammar, 5 <sup>th</sup> Edition, Betty S. Azar Stacy A. Hagen. | No                        |
| Websites                        |                                                                                                 |                           |

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

## MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                  |                               |                                                                                                                                                                                                                                          |
|------------------------------------|----------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                  |                               |                                                                                                                                                                                                                                          |
| Module Title                       | Electrical Circuits              |                               | Module Delivery                                                                                                                                                                                                                          |
| Module Type                        | Core                             |                               | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input checked="" type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |
| Module Code                        | CET1202                          |                               |                                                                                                                                                                                                                                          |
| ECTS Credits                       | 6                                |                               |                                                                                                                                                                                                                                          |
| SWL (hr/sem)                       | 150                              |                               |                                                                                                                                                                                                                                          |
| Module Level                       | 1                                | Semester of Delivery          | 2                                                                                                                                                                                                                                        |
| Administering Department           | CET                              | College                       | ETC                                                                                                                                                                                                                                      |
| Module Leader                      | Haider Faraj Hashem              | e-mail                        | Haider.Faraj.Hashem@alayen.edu.iq                                                                                                                                                                                                        |
| Module Leader's Acad. Title        | lecturer                         | Module Leader's Qualification | Master's                                                                                                                                                                                                                                 |
| Module Tutor                       | Mohamed Fadel                    | e-mail                        | Mohamed.Fadel@alayen.edu.iq                                                                                                                                                                                                              |
| Peer Reviewer Name                 | Assist prof. Ghadir Ibrahim Madi | e-mail                        | Ghadir.Ibrahim@alayen.edu.iq                                                                                                                                                                                                             |
| Scientific Committee Approval Date | 18/01/2025                       | Version Number                | 1.0                                                                                                                                                                                                                                      |

| Relation with other Modules       |                                     |          |   |
|-----------------------------------|-------------------------------------|----------|---|
| العلاقة مع المواد الدراسية الأخرى |                                     |          |   |
| Prerequisite module               | Electrical Engineering Fundamentals | Semester | 1 |
| Co-requisites module              | None                                | Semester |   |

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <ol style="list-style-type: none"> <li>1. To develop problem solving skills and understanding of circuit theory through the application of techniques Alternating Waveforms (A.C).</li> <li>2. To understand voltage, current and power from a (A.C) circuit.</li> <li>3. Deals with the basic concept of electrical (A.C) circuits.</li> <li>4. This is the basic subject for all electrical and electronic circuits.</li> <li>5. To understand Kirchhoff's current and voltage Laws problems.</li> <li>6. To perform Thevenin's Norton's Theorem.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <ol style="list-style-type: none"> <li>1. Recognize how electricity works in electrical circuits.</li> <li>2. List the various terms associated with electrical circuits.</li> <li>3. Summarize what is meant by a basic electric circuit.</li> <li>4. Discuss the reaction and involvement of atoms in electric circuits.</li> <li>5. Describe electrical power, charge, and current.</li> <li>6. Define Ohm's law.</li> <li>7. Identify the basic circuit elements and their applications.</li> <li>8. Discuss the operations of AC circuits in an electric circuit.</li> <li>9. Discuss the various properties of resistors.</li> <li>10. Explain the two Kirchhoff's laws used in circuit analysis.</li> <li>11. Identify the basic circuit elements, Maximum Power Transfer Theorem and Superposition's method</li> <li>12. Describe Thevenin's theorem and Norton's theorem and how they work IN AC Circuits.</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p>Indicative content includes the following.</p> <p><u>Definition:</u> -<br/> The Alternating Current Network Types of Alternating Waveforms, Generation of Alternating Current, and Definitions related to Alternating Waveforms The Alternating Current Network.</p> <p>Ohms law, The Mean Values, The Effective Vales, The Vector Diagram <b>(40 hr)</b></p> <p><u>Circuit Theory in (A.C)</u><br/> Ac circuits – Current and voltage definitions, Passive sign convention and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>circuit elements, Combining resistive elements in series and parallel. Kirchhoff's laws and Ohm's law. Anatomy of a circuit, Network reduction, Series Ac Circuits (R L C), Reviews for Complex Numbers and their mathematical operations <b>(24 hr)</b></p> <p><u>Fundamentals</u></p> <p>Resistive networks, voltage and current sources, Thevenin and Norton equivalent circuits, Conversion Delta To Star Connection, Superposition Method, Maximum Power Transfer Theorem, Superposition's method <b>(24 hr)</b></p> |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Learning and Teaching Strategies</b><br><b>استراتيجيات التعلم والتعليم</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategies</b>                                                             | <p>This Course Specification prepares the student to be able to realize basic parameters in electrical engineering and how to link these parameters. It also makes him capable of solving electrical circuits using different theorems in addition to utilizing the dc theorems to solve ac circuits. Moreover, it goes into configuring 3 phase circuits, vectors, phase and total powers and to have the student being capable of linking electricity to magnetism</p> |

| <b>Student Workload (SWL)</b><br><b>الحمل الدراسي للطالب</b>                   |     |                                                                            |       |
|--------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------|-------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطالب خلال الفصل       | 64  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطالب أسبوعياً       | 4.26  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطالب خلال الفصل | 86  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطالب أسبوعياً | 5.733 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطالب خلال الفصل              | 150 |                                                                            |       |

| <b>Module Evaluation</b><br><b>تقييم المادة الدراسية</b> |                        |             |                |            |                           |
|----------------------------------------------------------|------------------------|-------------|----------------|------------|---------------------------|
|                                                          |                        | Time/Number | Weight (Marks) | Week Due   | Relevant Learning Outcome |
| <b>Formative assessment</b>                              | <b>Quizzes</b>         | 1           | 5% (5)         | 8          | LO #1-4                   |
|                                                          | <b>Assignments</b>     | 1           | 5% (5)         | 14         | LO # 1- 11                |
|                                                          | <b>Projects / Lab.</b> | 10          | 20% (10)       | Continuous |                           |

|                             |                     |      |                  |    |           |
|-----------------------------|---------------------|------|------------------|----|-----------|
|                             | <b>Report</b>       | 10   | 10% (10)         | 12 | LO # 1-12 |
| <b>Summative assessment</b> | <b>Midterm Exam</b> | 2 hr | 10% (10)         | 8  | LO # 1-9  |
|                             | <b>Final Exam</b>   | 4hr  | 50% (50)         | 16 | All       |
| <b>Total assessment</b>     |                     |      | 100% (100 Marks) |    |           |

### Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

|                | <b>Material Covered</b>                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Week 1</b>  | The Alternating Current Network Types of Alternating Waveforms, Generation of Alternating Current, and Definitions related to Alternating Waveforms |
| <b>Week 2</b>  | The Mean Values of Current and Voltage                                                                                                              |
| <b>Week 3</b>  | The Effective Vales of Current and Voltage                                                                                                          |
| <b>Week 4</b>  | Circuit Elements in the Phasor Domain                                                                                                               |
| <b>Week 5</b>  | The Vector Diagram                                                                                                                                  |
| <b>Week 6</b>  | Reviews for Complex Numbers and there mathematical operations                                                                                       |
| <b>Week 7</b>  | Series Ac Circuits (R L C) ,Parallel Ac Circuits(R L C)                                                                                             |
| <b>Week 8</b>  | Mid exam                                                                                                                                            |
| <b>Week 9</b>  | The Instantaneous Power and Mean Power of AC, Reactive and Apparent Power                                                                           |
| <b>Week 10</b> | Using Kirchhoff's law's to solve AC circuits                                                                                                        |
| <b>Week 11</b> | Using Superposition's method to solve AC circuits                                                                                                   |
| <b>Week 12</b> | Using Thevenin's theorem, to solve AC circuits                                                                                                      |
| <b>Week 13</b> | Using Norton's theorem to solve AC circuits                                                                                                         |
| <b>Week 14</b> | 3- Phase Current, 3- Phase System, Y- Connection Delta Connection.                                                                                  |
| <b>Week 15</b> | Transformers , The hysteresis losses , The eddy current losses                                                                                      |

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

|               | <b>Material Covered</b>                                                                             |
|---------------|-----------------------------------------------------------------------------------------------------|
| <b>Week 1</b> | Lab 1: How to use measuring devices for alternating circuits (A.C) Osliscope, voltmeter and ammeter |
| <b>Week 2</b> | Lab 2: how to measure Alternating Waveforms                                                         |
| <b>Week 3</b> | Lab 3: Apply Ohm's Law                                                                              |
| <b>Week 4</b> | Lab 4: Series Ac Circuits (R C)                                                                     |
| <b>Week 5</b> | Lab 5: Series Ac Circuits (R L)                                                                     |

|                                 |                                                                                                                                                                                               |                           |
|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Week 6                          | Lab 6: Series Ac Circuits (R L C)                                                                                                                                                             |                           |
| Week 7                          | Lab 7: Apply Kirchhoff's law to measure voltages                                                                                                                                              |                           |
| Week 8                          | Lab 8: Apply Kirchhoff's law to measure current                                                                                                                                               |                           |
| 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               | DC Electrical Circuit Analysis: A Practical Approach<br>Copyright Year: 2020, dissidents.                                                                                                     | No                        |
| Websites                        | <a href="https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering">https://www.coursera.org/browse/physical-science-and-engineering/electrical-engineering</a> |                           |

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

## MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                 |                               |                                                                                                                                                                                                                                          |                                                                                  |
|------------------------------------|---------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                 |                               |                                                                                                                                                                                                                                          |                                                                                  |
| Module Title                       | Programming Essentials          |                               | Module Delivery                                                                                                                                                                                                                          |                                                                                  |
| Module Type                        | Core                            |                               | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input checked="" type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |                                                                                  |
| Module Code                        | CET1203                         |                               |                                                                                                                                                                                                                                          |                                                                                  |
| ECTS Credits                       | 6                               |                               |                                                                                                                                                                                                                                          |                                                                                  |
| SWL (hr/sem)                       | 150                             |                               |                                                                                                                                                                                                                                          |                                                                                  |
| Module Level                       | 1                               | Semester of Delivery          |                                                                                                                                                                                                                                          | 2                                                                                |
| Administering Department           | CET                             | College                       | ETC                                                                                                                                                                                                                                      |                                                                                  |
| Module Leader                      | Zahra Abbas Hassan Taiah        |                               | e-mail                                                                                                                                                                                                                                   | <a href="mailto:Zahra.Abbas@alayen.edu.iq">Zahra.Abbas@alayen.edu.iq</a>         |
| Module Leader's Acad. Title        | Lecturer                        | Module Leader's Qualification | Master's                                                                                                                                                                                                                                 |                                                                                  |
| Module Tutor                       | Baneen shuaibth bzaiea          |                               | e-mail                                                                                                                                                                                                                                   | <a href="mailto:Baneen.shuaibth@alayen.edu.iq">Baneen.shuaibth@alayen.edu.iq</a> |
| Peer Reviewer Name                 | Ass. Prof.<br>maher ali ibrahim | e-mail                        | <a href="mailto:maher.ali.ibrahim@alayen.edu.iq">maher.ali.ibrahim@alayen.edu.iq</a>                                                                                                                                                     |                                                                                  |
| Scientific Committee Approval Date | 18/01/2025                      | Version Number                | 1.0                                                                                                                                                                                                                                      |                                                                                  |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <ol style="list-style-type: none"> <li>1. To develop problem solving skills and understanding of programming principles.</li> <li>2. To understand the logic behind programming.</li> <li>3. This course include using C++ as a programming language.</li> <li>4. This course include algorithm design.</li> <li>5. To understand how a programmer should prepare his work and think logically.</li> <li>6. To perform programming project using control statements, functions, and to deal with the data stored in an array or file.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <ol style="list-style-type: none"> <li>1. Use of algorithms (Flowchart specifically).</li> <li>2. Explain how the program is written using C++ Programming language.</li> <li>3. Define and use of variables (Data types, Declaration of variables).</li> <li>4. Use of operators and its precedence (Assignment, Arithmetic operators, Relational and Logical operators, Bitwise Operators, Increment and decrement, Cast operator, and Conditional operator).</li> <li>5. Making Decisions (use of: if, if-else, and switch statements) and draw of Flowchart of if-else statement.</li> <li>6. Use of Loops (for, while, do-while), and use of break and continue statements with loops, and draw of Flowchart of loops.</li> <li>7. Use of Arrays (one and two dimensional).</li> <li>8. Use of Functions (Built-in function functions (Library functions), and User-Defined functions).</li> <li>9. Use of arguments passed by value and by reference, and use of Local and global variables.</li> <li>10. Use of Character sequences and string handling.</li> <li>11. Handling and processing text files in C++.</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p>Indicative content includes the following.</p> <p>- Introduction to computers and programming. Types of programs (Applications and Systems). Programming languages (Machine, Assembly, and High-level language). Introduction to Compilers, Interpreters, object file, and executable file.</p> <p>Introduction to C++ with a simple program implementation. Types of programming errors, Program development life cycle, Algorithms - Flowchart - .</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>Header files, Standard Input/output instructions, Comments in C++. <b>[15 hrs]</b></p> <p>-- Variables, Data Types, Declaration of variables, Constants, Statements.</p> <p>Operators (Assignment, Arithmetic operators, Relational and Logical operators, Bitwise Operators, Increment and decrement, Cast operator, and Conditional operator), Precedence of operators. <b>[0 hrs]</b></p> <p>-- Making Decisions (if, if-else statements), Flowchart of if-else statement. Making Decisions (switch statement), using break statement with switch statement, Flowchart of switch statement. Loops (for, while, do-while), using break and continue statements with loops, Flowchart of loops. <b>[10 hrs]</b></p> <p>-- Arrays (One dimensional and Two Dimensional) <b>[0 hrs]</b></p> <p>-- Functions (Built-in function functions (Library functions), and User-Defined functions), Function prototype (Declaration), Function call, Passing arguments to a function, return statement, Value-Returning vs. Void (Non Value Returning) functions, Function with no argument and no return value, Function with no argument but return value, Function with argument but no return value, Function with argument and return value. Arguments passed by value and by reference, Recursion, Local and global variables. <b>[10 hrs]</b></p> <p>-- Character sequences and string handling, ASCII table. <b>[0 hrs]</b></p> <p>-- Handling and processing text files in C++ <b>[0 hrs]</b></p> |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Learning and Teaching Strategies</b><br><b>استراتيجيات التعلم والتعليم</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategies</b>                                                             | <p>The main strategy that will be adopted in delivering this module is to encourage students' participation in learning and developing their skills in programming and logic thinking, 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 lab experiments involving assignments and project design activities that are interesting to the students.</p> |

| Student Workload (SWL)<br>الحمل الدراسي للطالب                                 |     |                                                                            |      |
|--------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطالب خلال الفصل       | 64  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطالب أسبوعياً       | 4.26 |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطالب خلال الفصل | 86  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطالب أسبوعياً | 5.73 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطالب خلال الفصل              | 150 |                                                                            |      |

| Module Evaluation<br>تقييم المادة الدراسية |                 |             |                  |            |                           |
|--------------------------------------------|-----------------|-------------|------------------|------------|---------------------------|
|                                            |                 | Time/Number | Weight (Marks)   | Week Due   | Relevant Learning Outcome |
| Formative assessment                       | Quizzes         | 1           | 10% (10)         | 6          | LO #1- 6                  |
|                                            | Assignments     | 1           | 10% (10)         | Continuous | LO #1-10                  |
|                                            | Projects / Lab. | 1           | 10% (10)         | Continuous | LO #1-11                  |
|                                            | Report          | 1           | 5% (10)          | Continuous | LO #1, 11                 |
| Summative assessment                       | Midterm Exam    | 2 hr        | 10% (10)         | 7          | LO # 1 to 7               |
|                                            | Final Exam      | 4hr         | 50% (50)         | 15         | All                       |
| Total assessment                           |                 |             | 100% (100 Marks) |            |                           |

| Delivery Plan (Weekly Syllabus)<br>المنهاج الأسبوعي النظري |                                                                                                                                                        |
|------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                            | Material Covered                                                                                                                                       |
| <b>Week 1</b>                                              | Introduction (History of computers). Types of programs (Applications and Systems). Programming languages (Machine, Assembly, and High-level language). |
| <b>Week 2</b>                                              | Introduction to Compilers, Interpreters, object file, and executable file. Types of programming errors, program development life cycle.                |
| <b>Week 3</b>                                              | Algorithms (Flowchart).                                                                                                                                |
| <b>Week 4</b>                                              | Variables, Data Types, Declaration of variables, Constants, Statements, and Operators.                                                                 |

|                |                                                                                                                                                                                                                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Week 5</b>  | Making Decisions (if, if-else statements), flowchart of if-else statement.                                                                                                                                                                                                                                     |
| <b>Week 6</b>  | Making Decisions (switch statement), using break statement with switch statement, flowchart of switch statement.                                                                                                                                                                                               |
| <b>Week 7</b>  | Mid-term Exam                                                                                                                                                                                                                                                                                                  |
| <b>Week 8</b>  | Loops (while, do-while), using break and continue statements with loops, flowchart of loops.                                                                                                                                                                                                                   |
| <b>Week 9</b>  | Arrays (One dimensional)                                                                                                                                                                                                                                                                                       |
| <b>Week 10</b> | Arrays (Two Dimensional)                                                                                                                                                                                                                                                                                       |
| <b>Week 11</b> | Functions: Built-in function functions (Library functions), and User-Defined functions),<br>Function prototype (Declaration), function call, Passing arguments to a function, return statement,<br>Local and global variables.                                                                                 |
| <b>Week 12</b> | Functions (Value-Returning) vs. Void (Non Value Returning) functions, function with no argument<br>and no return value, function with no argument but return value, function with argument but no<br>return value, function with argument and return value.<br><br>Arguments passed by value and by reference. |
| <b>Week 13</b> | Character sequences and string handling, ASCII table.                                                                                                                                                                                                                                                          |
| <b>Week 14</b> | Handling and processing text files in C++                                                                                                                                                                                                                                                                      |
| <b>Week 15</b> | <b>Preparatory week before the final Exam</b>                                                                                                                                                                                                                                                                  |

### Delivery Plan (Weekly Lab. Syllabus)

المنهاج الأسبوعي للمختبر

|               | <b>Material Covered</b>                                                                                                                                                                                            |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Week 1</b> | Lab 1: Introduction to C++ with a simple program implementation. Header files, Standard Input/output instructions, Comments in C++.                                                                                |
| <b>Week 2</b> | Lab 2: Variables and Operators (Assignment, Arithmetic operators, Relational and Logical operators, Bitwise Operators, Increment and decrement, Cast operator, and Conditional operator), Precedence of operators. |
| <b>Week 3</b> | Lab 3: Making Decisions (if, if-else).                                                                                                                                                                             |
| <b>Week 4</b> | Lab 4: Making Decisions (switch statements).                                                                                                                                                                       |
| <b>Week 5</b> | Lab 5: Loops (for)                                                                                                                                                                                                 |
| <b>Week 6</b> | Lab 6: Loops (while, and do-while)                                                                                                                                                                                 |
| <b>Week 7</b> | Lab 7: Arrays (1D)                                                                                                                                                                                                 |
| <b>Week 8</b> | Lab 8: Arrays (2D)                                                                                                                                                                                                 |
| <b>Week 9</b> | Lab 9: Functions                                                                                                                                                                                                   |

|                |                                                                                             |
|----------------|---------------------------------------------------------------------------------------------|
| <b>Week 10</b> | Lab 10: Function types according to whether it take arguments and/or return a value or not. |
| <b>Week 11</b> | Lab 11: Character sequences and string handling.                                            |
| <b>Week 12</b> | Lab 12: Text files                                                                          |

### Learning and Teaching Resources

#### مصادر التعلم والتدريس

|                          | Text                                                                                                                          | Available in the Library? |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>Required Texts</b>    | C++ How to Program, 6th Edition 2007<br>By P. J. Deitel - Deitel & Associates, Inc., H. M. Deitel - Deitel & Associates, Inc. | Yes                       |
| <b>Recommended Texts</b> | Starting Out with Programming Logic and Design (What's New in Computer Science), 5th Edition 2018<br>By Tony Gaddis           | No                        |
| <b>Websites</b>          | <a href="https://www.geeksforgeeks.org/c-plus-plus">https://www.geeksforgeeks.org/c-plus-plus</a>                             |                           |

### Grading Scheme

#### مخطط الدرجات

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

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

## MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                        |                               |                                                                                                                                                                                                                                          |
|------------------------------------|----------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                        |                               |                                                                                                                                                                                                                                          |
| Module Title                       | Mathematics II                         |                               | Module Delivery                                                                                                                                                                                                                          |
| Module Type                        | Support or related learning activity   |                               | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input type="checkbox"/> Lab<br><input checked="" type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |
| Module Code                        | CET1204                                |                               |                                                                                                                                                                                                                                          |
| ECTS Credits                       | 5                                      |                               |                                                                                                                                                                                                                                          |
| SWL (hr/sem)                       | 125                                    |                               |                                                                                                                                                                                                                                          |
| Module Level                       | 1                                      | Semester of Delivery          |                                                                                                                                                                                                                                          |
| Administering Department           | CET                                    | College                       | ETC                                                                                                                                                                                                                                      |
| Module Leader                      | Mohammad Ali Anbar                     | e-mail                        | <a href="mailto:Mohammad.Ali.Anbar@alayen.edu.iq">Mohammad.Ali.Anbar@alayen.edu.iq</a>                                                                                                                                                   |
| Module Leader's Acad. Title        | Ass. Professor                         | Module Leader's Qualification | Phd                                                                                                                                                                                                                                      |
| Module Tutor                       | Magdy Adel Abdelhay                    | e-mail                        | <a href="mailto:Magdy.Adel@alayen.edu.iq">Magdy.Adel@alayen.edu.iq</a>                                                                                                                                                                   |
| Peer Reviewer Name                 | Assist prof.<br>Ghadir Ibrahim<br>Madi | e-mail                        | <a href="mailto:Ghadir.Ibrahim@alayen.edu.iq">Ghadir.Ibrahim@alayen.edu.iq</a>                                                                                                                                                           |
| Scientific Committee Approval Date | 18/01/2025                             | Version Number                | 1.0                                                                                                                                                                                                                                      |

| Relation with other Modules       |          |          |   |
|-----------------------------------|----------|----------|---|
| العلاقة مع المواد الدراسية الأخرى |          |          |   |
| Prerequisite module               | CET 1103 | Semester | 1 |
| Co-requisites module              | None     | Semester |   |

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <ol style="list-style-type: none"> <li>1. To Understand concepts of vectors and vector operations.</li> <li>2. To Understand concepts of linear algebra.</li> <li>3. To get a grasp of various methods to solve systems of linear equations.</li> <li>4. To Compute linear transformations.</li> <li>5. To be able to determine Eigenvalues and Eigenvectors.</li> <li>6. To perform matrix diagonalization.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <ol style="list-style-type: none"> <li>1. Recognize Vectors concepts, notation and Operations.</li> <li>2. Discuss dot product, cross product, Orthogonal and orthonormal vectors.</li> <li>3. Discuss the terms Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.</li> <li>4. Describe the matrix operations {addition, subtraction, scalar multiplication, multiplication}.</li> <li>5. Identify Determinant and Inverse for Nonsingular matrices.</li> <li>6. Discuss aspects about System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.).</li> <li>7. Identify Row operations, row-echelon form "triangular", Rank of a Matrix, reduced row-echelon form, Augmented Matrix.</li> <li>8. Discuss Gaussian elimination.</li> <li>9. Explain Gauss–Jordan elimination and Solving Systems with Inverses.</li> <li>10. Explain Cramer's Rule.</li> <li>11. Explain Linear Combinations of Vector, span.</li> <li>12. Explain Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix.</li> <li>13. Recognize Linear Transformations.</li> <li>14. Discuss Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem.</li> <li>15. Discuss Eigenvalues and Eigenvectors, Diagonalizing Matrices.</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <p><u>Part A - Vectors.</u><br/> This part includes Vectors definition, notation {Ordered set, Matrix, Unit vector}, Magnitude, Unit, Zero, negative, Direction, Operations on vectors {addition, subtraction, scalar multiplication}. In addition to Operations on vectors {dot product, cross product}, Orthogonal, orthonormal vectors. <b>[6 hrs]</b> + Revision problem classes in weekly tutorials <b>[2 hrs]</b></p> <p><u>Part B – Matrices.</u><br/> This part will take in details Matrices (Matrix, Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.), in addition to operations {addition, subtraction, scalar multiplication, multiplication}. Furthermore, Determinant, Inverse</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

|  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>(Nonsingular). <b>[10 hrs]</b> + Revision problem classes in weekly tutorials <b>[3 hrs]</b></p> <p><u>Part C – System of Linear Equations.</u></p> <p>This part discusses System of Linear Equations (Linear Equations, Linear Equations Solution, Matrix equations.), in addition to Row operations, row-echelon form “triangular”, Rank of a Matrix, reduced row-echelon form, Augmented Matrix. Furthermore, Gaussian elimination, Gauss–Jordan elimination, Solving Systems with Inverses, Cramer's Rule is described. <b>[14 hrs]</b> + Revision problem classes in weekly tutorials <b>[4 hrs]</b></p> <p><u>Part D – Vector Spaces and Diagonalization.</u></p> <p>This part discusses Vector Spaces (Linear Combinations of Vector, span, Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix, Linear Transformations. Furthermore, Diagonalization (Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem, Eigenvalues and Eigenvectors, Diagonalizing Matrices.) <b>[15 hrs]</b> + Revision problem classes in weekly tutorials <b>[5 hrs]</b></p> |
|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Learning and Teaching Strategies

#### استراتيجيات التعلم والتعليم

|                   |                                                                                                                                                                                                                                                              |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategies</b> | <p>This module will primarily focus on encouraging students to participate in the activities, as well as refining and developing their critical thinking skills. This will be achieved through lectures, tutorials, discussions, and grading activities.</p> |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Student Workload (SWL)

#### الحمل الدراسي للطالب

|                                                                                |     |                                                                            |      |
|--------------------------------------------------------------------------------|-----|----------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطالب خلال الفصل       | 48  | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطالب أسبوعياً       | 3.2  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطالب خلال الفصل | 77  | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطالب أسبوعياً | 5.13 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطالب خلال الفصل              | 125 |                                                                            |      |

### Module Evaluation

#### تقييم المادة الدراسية

|                             |                        | Time/Number | Weight (Marks) | Week Due | Relevant Learning Outcome |
|-----------------------------|------------------------|-------------|----------------|----------|---------------------------|
| <b>Formative assessment</b> | <b>Quizzes</b>         | 2           | 20%            | 5,10     | LO #1 - 4, LO # 6-9       |
|                             | <b>Assignments</b>     | 2           | 15%            | 5,10     | LO # 1 - 14, LO # 6-9     |
|                             | <b>Projects / Lab.</b> | N/A         |                |          |                           |
|                             | <b>Report</b>          | 5           | 5%             | Cont.    | LO # 1-15                 |
| <b>Summative assessment</b> | <b>Midterm Exam</b>    | 2 hr        | 10% (10)       | 5        | LO # 1-7                  |
|                             | <b>Final Exam</b>      | 3hr         | 50% (50)       | 16       | All                       |

|                         |                  |  |  |
|-------------------------|------------------|--|--|
| <b>Total assessment</b> | 100% (100 Marks) |  |  |
|-------------------------|------------------|--|--|

### Delivery Plan (Weekly Syllabus)

#### المنهاج الاسبوعي النظري

|                | <b>Material Covered</b>                                                                                                                                                                     |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Week 1</b>  | <b>Vectors</b> (Definition, notation {Ordered set, Matrix, Unit vector}, Magnitude, Unit, Zero, negative, Direction, Operations on vectors {addition, subtraction, scalar multiplication}.) |
| <b>Week 2</b>  | <b>Vectors</b> (Operations on vectors {dot product, cross product}, Orthogonal, orthonormal vectors.)                                                                                       |
| <b>Week 3</b>  | <b>Matrices</b> (Matrix, Diagonal, Triangular, Symmetric, Square Matrix, Transpose of a Matrix.)                                                                                            |
| <b>Week 4</b>  | <b>Matrices</b> (operations {addition, subtraction, scalar multiplication, multiplication}). <b>Matrices</b> (Determinant, Inverse (Nonsingular))                                           |
| <b>Week 5</b>  | <b>Midterm Exam</b>                                                                                                                                                                         |
| <b>Week 6</b>  | <b>System of Linear Equations</b> (Linear Equations, Linear Equations Solution, Matrix equations.)                                                                                          |
| <b>Week 7</b>  | <b>System of Linear Equations</b> (Row operations, row-echelon form “triangular”, Rank of a Matrix, reduced row-echelon form, Augmented Matrix.)                                            |
| <b>Week 8</b>  | <b>System of Linear Equations (Gaussian elimination.), System of Linear Equations (Gauss–Jordan elimination, Solving Systems with Inverses.)</b>                                            |
| <b>Week 9</b>  | <b>System of Linear Equations (Cramer's Rule.)</b>                                                                                                                                          |
| <b>Week 10</b> | <b>Midterm Exam</b>                                                                                                                                                                         |
| <b>Week 11</b> | <b>Vector Spaces</b> (Linear Combinations of Vector, span.). <b>Vector Spaces</b> (Linear Transformations.)                                                                                 |
| <b>Week 12</b> | <b>Midterm Exam</b>                                                                                                                                                                         |
| <b>Week 13</b> | <b>Vector Spaces</b> (Linear Dependence and Independence, Basis and Dimension, Rank of a Matrix.)                                                                                           |
| <b>Week 14</b> | <b>Diagonalization</b> (Polynomials of Matrices, Characteristic Polynomial, Cayley–Hamilton Theorem.)                                                                                       |
| <b>Week 15</b> | <b>Diagonalization</b> (Eigenvalues and Eigenvectors, Diagonalizing Matrices.)                                                                                                              |
| <b>Week 16</b> | <b>Preparatory week before the final Exam</b>                                                                                                                                               |

**Delivery Plan (Weekly Tutorial)**

## المنهاج الاسبوعي الاضافي

**Material Covered**

Each week, a question sheet related to the material presented in the theoretical lecture will be solved and debated.

**Learning and Teaching Resources**

## مصادر التعلم والتدريس

|                          | Text                                                                                                                                                             | Available in the Library? |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>Required Texts</b>    | David C. Lay, Judi J. McDonald, Steven R. Lay, "Linear Algebra and Its Applications", Pearson Education, 6th edition (July 10th 2020), ISBN-13: 978- 0136880929. | Yes                       |
| <b>Recommended Texts</b> | Gilbert Strang, " Linear Algebra and Its Applications", Cengage Learning, 4th edition, (January 1, 2006), ISBN-13: 978-0030105678.                               | No                        |
| <b>Websites</b>          | <a href="https://www.udemy.com/course/linear-algebra-with-applications/">https://www.udemy.com/course/linear-algebra-with-applications/</a>                      |                           |

**Grading Scheme**

## مخطط الدرجات

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

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

## MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                            |                      |                                                                                                                                                                                                                               |                                                                                      |
|------------------------------------|--------------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                            |                      |                                                                                                                                                                                                                               |                                                                                      |
| Module Title                       | Arabic Language                            |                      | Module Delivery                                                                                                                                                                                                               |                                                                                      |
| Module Type                        | Basic learning activities                  |                      | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |                                                                                      |
| Module Code                        | MTU1001                                    |                      |                                                                                                                                                                                                                               |                                                                                      |
| ECTS Credits                       | 2                                          |                      |                                                                                                                                                                                                                               |                                                                                      |
| SWL (hr/sem)                       | 50                                         |                      |                                                                                                                                                                                                                               |                                                                                      |
| Module Level                       | 1                                          | Semester of Delivery |                                                                                                                                                                                                                               | 2                                                                                    |
| Administering Department           | CET                                        | College              | ETC                                                                                                                                                                                                                           |                                                                                      |
| Module Leader                      | Azhar Rahim Owaid                          |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:Azhar.Rahim.Owaid@alayen.edu.iq">Azhar.Rahim.Owaid@alayen.edu.iq</a> |
| Module Leader's Acad. Title        | Assistant Lecturer                         |                      | Module Leader's Qualification                                                                                                                                                                                                 | M.Sc                                                                                 |
| Module Tutor                       | Nadwa Sabeeh Jaber                         |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:Nadwa.Sabeeh@alayen.edu.iq">Nadwa.Sabeeh@alayen.edu.iq</a>           |
| Peer Reviewer Name                 | Dr.<br>Mustafa Mohsen<br>Ghaithan Al-Badir |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:mostafa.albdair@alayen.edu.iq">mostafa.albdair@alayen.edu.iq</a>     |
| Scientific Committee Approval Date | 18/01/2025                                 | Version Number       | 1.0                                                                                                                                                                                                                           |                                                                                      |

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

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

|                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><b>Module Aims</b></p> <p>أهداف المادة الدراسية</p>                      | <p>أهداف المادة الدراسية هي اني يكون الطالب قادراً على أن :</p> <ol style="list-style-type: none"> <li>١. يتعرف على أنواع الأخطاء اللغوية المشتركة وتوضيح أسبابها وكيفية تجنبها.</li> <li>٢. يتعلم القواعد المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة وكيفية كتابتها بشكل صحيح.</li> <li>٣. يتعلم قواعد كتابة الألف الممدودة والمقصورة واستخدام الحروف الشمسية والقمرية بشكل صحيح.</li> <li>٤. التعرف على الضاد والظاء ومعرفة كيفية التمييز بينهما في الكتابة.</li> <li>٥. يتعلم طرق كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية.</li> <li>٦. التعرف على علامات الترقيم واستخدامها بشكل صحيح في النصوص.</li> <li>٧. يفهم الفروق بين الاسم والفعل والتمييز بينهما في الجمل.</li> <li>٨. يفهم المفاعيل و كيفية استخدامها بشكل صحيح في النصوص.</li> <li>٩. يتعلم الأرقام والعدد واستخدامها في التعبير عن الكميات.</li> <li>١٠. يتجنب الأخطاء اللغوية الشائعة في سياقات عملية لتعزيز فهم القواعد وتحسين المهارات اللغوية.</li> <li>١١. يدرس النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل.</li> <li>١٢. يركز على الجوانب الشكلية للخطاب الإداري وكيفية كتابته بأسلوب صحيح ومناسب.</li> <li>١٣. التعرف على لغة الخطاب الإداري وفهم استخدامها في التواصل الإداري.</li> <li>١٤. يفهم نماذج من المراسلات الإدارية لتطبيق المفاهيم والمهارات المكتسبة في الخطاب الإداري.</li> </ol>                                                                                                                  |
| <p><b>Module Learning Outcomes</b></p> <p>مخرجات التعلم للمادة الدراسية</p> | <p>مخرجات التعلم للمادة الدراسية هي:</p> <ol style="list-style-type: none"> <li>١. قدرة الطلاب على تحليل وتعريف الأخطاء اللغوية المشتركة وتطبيق القواعد الصحيحة لتجنبها.</li> <li>٢. القدرة على استخدام القواعد اللغوية المتعلقة بالتاء المربوطة والطويلة والتاء المفتوحة بشكل صحيح.</li> <li>٣. قدرة الطلاب على استخدام الألف الممدودة والمقصورة بشكل صحيح واستخدام الحروف الشمسية والقمرية بطريقة صحيحة.</li> <li>٤. تمكين الطلاب من التمييز بين الضاد والظاء وتطبيق القواعد الصحيحة في الكتابة.</li> <li>٥. القدرة على كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية.</li> <li>٦. استخدام علامات الترقيم بشكل صحيح في النصوص المكتوبة.</li> <li>٧. فهم الطلاب للفروق بين الاسم والفعل وتمكينهم من استخدامها بشكل صحيح في الجمل.</li> <li>٨. القدرة على استخدام المفاعيل بشكل صحيح في النصوص المكتوبة.</li> <li>٩. استخدام الأرقام والعدد بطريقة صحيحة للتعبير عن الكميات.</li> <li>١٠. التمكن من تطبيق الأخطاء اللغوية الشائعة في سياقات عملية وتصحيحها بشكل مناسب.</li> <li>١١. فهم استخدام النون والتنوين ومعاني حروف الجر واستخدامها بشكل صحيح في الجمل.</li> <li>١٢. القدرة على كتابة الخطاب الإداري بأسلوب صحيح ومناسب وفهم لغة الخطاب الإداري.</li> <li>١٣. تطبيق المفاهيم والمهارات المكتسبة في كتابة المراسلات الإدارية بشكل صحيح وفعال.</li> </ol>                                                                                                                                                           |
| <p><b>Indicative Contents</b></p> <p>المحتويات الإرشادية</p>                | <p>المحتويات الإرشادية في مادة اللغة تشمل مجموعة من المفاهيم والمواضيع التي يتم تغطيتها خلال عملية التعلم. ومن بين المحتويات الإرشادية المهمة:</p> <ol style="list-style-type: none"> <li>١. مقدمة عن الأخطاء اللغوية والتعريف بالتاء المربوطة والتاء المطولة والتاء المفتوحة. ( ٤ ساعات)</li> <li>٢. قواعد كتابة الألف الممدودة والمقصورة والتعرف على الحروف الشمسية والقمرية. ( ٤ ساعات)</li> <li>٣. دراسة الضاد والظاء وتعلم طرق كتابتهما بشكل صحيح. ( ٤ ساعات)</li> <li>٤. تعلم كتابة الهمزة بشكل صحيح وفقاً للقواعد اللغوية. ( ٤ ساعات)</li> <li>٥. دراسة علامات الترقيم وتعلم استخدامها بشكل صحيح في النصوص اللغوية. ( ٤ ساعات)</li> <li>٦. التعرف على الاسم والفعل والتفريق بينهما وفهم القواعد المتعلقة بهما. ( ٤ ساعات)</li> <li>٧. دراسة المفاعيل وتعلم استخدامها في الجمل اللغوية. ( ٤ ساعات)</li> <li>٨. التعرف على الأعداد واستخدامها بشكل صحيح في العبارات والجمل. ( ٤ ساعات)</li> <li>٩. دراسة الأخطاء اللغوية الشائعة وتطبيقاتها في النصوص اللغوية. ( ٤ ساعات)</li> <li>١٠. تعلم استخدام النون والتنوين وفهم معاني حروف الجر واستخدامها بشكل صحيح في الجمل. ( ٣ ساعات)</li> <li>١١. التعرف على الجوانب الشكلية للخطاب الإداري وفهم لغته وقواعده. ( ٣ ساعات)</li> <li>١٢. دراسة نماذج من المراسلات الإدارية وتطبيقها في الكتابة. ( ٣ ساعات)</li> </ol> <p>توفر هذه المحتويات الإرشادية للطلاب فهماً شاملاً للمفاهيم اللغوية وتعلم القواعد والتطبيقات العملية التي تساعدهم في تطوير مهاراتهم اللغوية.</p> |

| <b>Learning and Teaching Strategies</b><br><b>استراتيجيات التعلم والتعليم</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Strategies</b>                                                             | <p>استراتيجيات التعلم والتعليم المستخدمة في مادة اللغة تشمل مجموعة متنوعة من النهج والتقنيات التي تعزز عملية التعلم للطلاب. من بين هذه الاستراتيجيات:</p> <ol style="list-style-type: none"> <li>١. التفاعل النشط: يتم تشجيع الطلاب على المشاركة والمشاركة الفعالة في الدروس من خلال المناقشات الجماعية والأنشطة التفاعلية.</li> <li>٢. التعلم التعاوني: يشجع التعاون والتعاون بين الطلاب من خلال العمل الجماعي والمشاريع الجماعية، حيث يتعاون الطلاب مع بعضهم البعض لتحقيق أهداف التعلم المحددة.</li> <li>٣. التطبيق العملي: يتم توفير فرص للطلاب لتطبيق المفاهيم والمهارات المكتسبة في سياقات عملية وواقعية، مما يعزز التفاعل الفعال مع المادة.</li> <li>٤. استخدام التقنيات الحديثة: يستفيد الطلاب من استخدام التكنولوجيا في عملية التعلم، مثل استخدام الحواسيب والإنترنت للبحث والتعلم الذاتي.</li> <li>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.</li> <li>٦. التنوع 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.</li> <li>٧. باستخدام هذه الاستراتيجيات، يتم تعزيز التفاعل والتعلم الفعال للطلاب، و</li> <li>٨. تحفيزهم على المشاركة واكتساب المعرفة والمهارات بشكل شامل وشيق.</li> </ol> |

| <b>Student Workload (SWL)</b><br><b>الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا</b> |    |                                                                           |      |
|---------------------------------------------------------------------------------|----|---------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطلاب خلال الفصل        | 33 | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطلاب أسبوعيا       | 2.2  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطلاب خلال الفصل  | 17 | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطلاب أسبوعيا | 1.13 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطلاب خلال الفصل               | 50 |                                                                           |      |

| <b>Module Evaluation</b><br><b>تقييم المادة الدراسية</b> |                        |                 |                  |             |                              |
|----------------------------------------------------------|------------------------|-----------------|------------------|-------------|------------------------------|
|                                                          |                        | Time/N<br>umber | Weight (Marks)   | Week<br>Due | Relevant Learning<br>Outcome |
| <b>Formative<br/>assessment</b>                          | <b>Quizzes</b>         | 2               | 20%              | 5, 10       | LO #1-4 LO #4-9              |
|                                                          | <b>Assignments</b>     | 2               | 10% (10)         | 2, 12       | LO # 1-5 , 5-12              |
|                                                          | <b>Projects / Lab.</b> |                 |                  |             |                              |
|                                                          | <b>Report</b>          | 1               | 10% (10)         | 14          | LO # 1-12                    |
| <b>Summative<br/>assessment</b>                          | <b>Midterm Exam</b>    | 2 hours         | 20% (10)         | 7           | LO # 1-7                     |
|                                                          | <b>Final Exam</b>      | 3 hours         | 50% (50)         | 16          | All                          |
| <b>Total assessment</b>                                  |                        |                 | 100% (100 Marks) |             |                              |

| Delivery Plan (Weekly Syllabus) |                                                                    |                                |
|---------------------------------|--------------------------------------------------------------------|--------------------------------|
| المنهاج الاسبوعي النظري         |                                                                    |                                |
| ٨-١                             | مقدمة عن الأخطاء اللغوية – التاء المربوطة والطويلة والتاء المفتوحة | الأسبوع الأول                  |
| ١٤-٩                            | قواعد كتابة الالف الممدودة والمقصورة – الحروف الشمسية والقمرية     | الأسبوع الثاني                 |
| ١٩-١٥                           | الضاد والظاء                                                       | الأسبوع الثالث                 |
| ٣٠-٢٠                           | كتابة الهمزة                                                       | الأسبوع الرابع                 |
| ٣٦-٣١                           | علامات الترقيم                                                     | الأسبوع الخامس                 |
| ٥٠-٣٧                           | الاسم والفعل والتفريق بينهما - المفاعيل                            | الأسبوع السادس                 |
|                                 | الامتحان النصفى                                                    | الأسبوع السابع                 |
| ٦١-٥١                           | العدد                                                              | الأسبوع الثامن                 |
| ٦٩-٦٢                           | تطبيقات الأخطاء اللغوية الشائعة                                    | الأسبوع التاسع والعاشر         |
| ٧٥-٧٠                           | النون والتنوين - معاني حروف الجر                                   | الأسبوع الحادي عشر             |
| ٨٠-٧٦                           | الجوانب الشكلية للخطاب الإداري                                     | الأسبوع الثاني عشر             |
| ٨٦-٨١                           | لغة الخطاب الإداري                                                 | الأسبوع الثالث عشر والرابع عشر |
|                                 | نماذج من المراسلات الإدارية                                        | الأسبوع الخامس عشر             |
|                                 | الاستعداد للامتحان النهائي                                         | الأسبوع السادس عشر             |

| Learning and Teaching Resources |                                                                        |                           |
|---------------------------------|------------------------------------------------------------------------|---------------------------|
| مصادر التعلم والتدريس           |                                                                        |                           |
|                                 | Text                                                                   | Available in the Library? |
| Required Texts                  | • ملزمة اللغة العربية ( المعجمة من وزارة التعليم العالي والبحث العلمي) | Yes                       |
| Recommended Texts               |                                                                        | 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  |
| <b>Note:</b> Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above. |                  |                     |           |                                       |



# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                   |                      |                                                                                                                                                                                                                                          |                                                                                |
|------------------------------------|-----------------------------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                   |                      |                                                                                                                                                                                                                                          |                                                                                |
| Module Title                       | Computer Principles               |                      | Module Delivery                                                                                                                                                                                                                          |                                                                                |
| Module Type                        | Basic                             |                      | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input checked="" type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |                                                                                |
| Module Code                        | MTU1004                           |                      |                                                                                                                                                                                                                                          |                                                                                |
| ECTS Credits                       | 3                                 |                      |                                                                                                                                                                                                                                          |                                                                                |
| SWL (hr/sem)                       | 75                                |                      |                                                                                                                                                                                                                                          |                                                                                |
| Module Level                       | 1                                 | Semester of Delivery |                                                                                                                                                                                                                                          | 2                                                                              |
| Administering Department           | CET                               | College              | ETC                                                                                                                                                                                                                                      |                                                                                |
| Module Leader                      | Abbas Kamel Ghadban               |                      | e-mail                                                                                                                                                                                                                                   | Abbas.Kamel@alayen.edu.iq                                                      |
| Module Leader's Acad. Title        | Assistant lecture                 |                      | Module Leader's Qualification                                                                                                                                                                                                            | Master`s                                                                       |
| Module Tutor                       | Mazen mohammad yousef             |                      | e-mail                                                                                                                                                                                                                                   | <a href="mailto:Mazen.mohammad@alayen.edu.iq">Mazen.mohammad@alayen.edu.iq</a> |
| Peer Reviewer Name                 | Ass. Prof.<br>Ghadir Ibrahim Madi |                      | e-mail                                                                                                                                                                                                                                   | <a href="mailto:Ghadir.Ibrahim@alayen.edu.iq">Ghadir.Ibrahim@alayen.edu.iq</a> |
| Scientific Committee Approval Date | 18/01/2025                        | Version Number       | 2.0                                                                                                                                                                                                                                      |                                                                                |

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

| <b>Module Aims, Learning Outcomes and Indicative Contents</b><br><b>أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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| <b>Module Aims</b><br><b>أهداف المادة الدراسية</b>                                                                               | <b>The module aims to:</b> <ol style="list-style-type: none"> <li>1- To provide students with a foundational understanding of hardware, software, computing, data, and information.</li> <li>2- To familiarize students with the various components of a computer, including hardware parts, memory types, and input/output units.</li> <li>3- To develop proficiency in using common operating systems and graphical user interfaces, enabling students to navigate and manage files effectively.</li> <li>4- To equip students with the skills necessary for creating, formatting, and managing documents using word processing software.</li> <li>5- To introduce students to basic spreadsheet concepts, including data manipulation, formulas, and functions for data analysis.</li> <li>6- To foster skills in creating and delivering presentations using presentation software, focusing on effective communication and visual design.</li> <li>7- To build an understanding of internet concepts, including networking basics, web browsing, and effective use of search engines.</li> <li>8- To teach students the principles of electronic communication, including email management and document collaboration.</li> <li>9- To provide students with the knowledge and skills to identify and troubleshoot common computer hardware and software problems.</li> <li>10- To encourage the practical application of learned concepts in real-world scenarios, enhancing problem-solving and critical thinking skills.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Module Learning Outcomes</b><br><b>مخرجات التعلم للمادة الدراسية</b>                                                          | <p>By the end of the module, students should be able to:</p> <ol style="list-style-type: none"> <li>1. Identify and Describe Key Concepts: Students will be able to explain fundamental concepts of hardware, software, computing, data, and information.</li> <li>2. Recognize Computer Components: Students will demonstrate an understanding of the main components of a computer system, including hardware parts, memory types, and I/O units.</li> <li>3. Navigate Operating Systems: Students will proficiently navigate and utilize common operating systems and graphical user interfaces for file management and application usage.</li> <li>4. Create and Format Documents: Students will be able to create, edit, and format text documents using word processing software, employing various tools and features effectively.</li> <li>5. Utilize Spreadsheets for Data Management: Students will demonstrate the ability to manipulate cells, use formulas and functions, and perform basic data analysis using spreadsheet software.</li> <li>6. Develop Effective Presentations: Students will create engaging presentations using presentation software, including designing slides and delivering content clearly.</li> <li>7. Navigate the Internet Effectively: Students will understand and apply concepts related to internet use, including web browsing, search engine utilization, and understanding URLs.</li> <li>8. Manage Electronic Communications: Students will demonstrate proficiency in using email for communication, including sending, receiving, and organizing messages and collaborating on documents.</li> <li>9. Apply Troubleshooting Techniques: Students will identify common hardware and software problems and apply basic troubleshooting techniques to resolve issues.</li> <li>10. Integrate Knowledge into Practical Scenarios: Students will apply their acquired knowledge and skills to real-world scenarios, demonstrating problem-solving and critical thinking abilities.</li> </ol> |
| <b>Indicative Contents</b><br><b>المحتويات الإرشادية</b>                                                                         | <ol style="list-style-type: none"> <li>1. Introduction to Computers: [4 hrs.] <ul style="list-style-type: none"> <li>• Definition of Computers</li> <li>• History and Evolution of Computers</li> <li>• Types of Computers: Desktops, laptops, tablets, servers.</li> </ul> </li> <li>2. Hardware and Software Concepts: [4 hrs.]</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

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|  | <ul style="list-style-type: none"> <li>• Hardware Components: <ul style="list-style-type: none"> <li>○ Central Processing Unit (CPU)</li> <li>○ Memory (RAM, ROM, Cache)</li> <li>○ Storage Devices (HDD, SSD, USB drives)</li> <li>○ Input Devices (keyboard, mouse, scanner)</li> <li>○ Output Devices (monitor, printer, speakers)</li> </ul> </li> <li>• Software Components: <ul style="list-style-type: none"> <li>○ System Software (Operating Systems)</li> <li>○ Application Software (Word processors, spreadsheets, etc.)</li> </ul> </li> </ul> <p>3. Data and Information: [4 hrs.]</p> <ul style="list-style-type: none"> <li>• Definitions of Data and Information</li> <li>• Data Processing Cycle</li> <li>• Types of Data: Structured vs. unstructured data.</li> </ul> <p>4. Information Electronics and Communication Technology (IECT) : [4 hrs.]</p> <ul style="list-style-type: none"> <li>• Applications of IECT</li> <li>• Impact on Society and Business</li> </ul> <p>5. Connecting Devices: [4 hrs.]</p> <ul style="list-style-type: none"> <li>• Input/Output Devices: Installation and configuration.</li> <li>• Peripherals: Printers, scanners, external drives.</li> <li>• Computer Ports: USB, HDMI, Ethernet, etc.</li> </ul> <p>6. Operating Systems and GUI: [8 hrs.]</p> <ul style="list-style-type: none"> <li>• Operating System Functions: Resource management, user interface.</li> <li>• Common Operating Systems: Windows, macOS, Linux.</li> <li>• Graphical User Interface (GUI): <ul style="list-style-type: none"> <li>○ Using the mouse and keyboard.</li> <li>○ Common icons and their functions.</li> <li>○ Menus and menu-navigation.</li> <li>○ Managing windows and applications.</li> </ul> </li> </ul> <p>7. Word Processing: [8 hrs.]</p> <ul style="list-style-type: none"> <li>• Creating and Managing Documents</li> <li>• Text Manipulation: Inputting and editing text.</li> <li>• Formatting Techniques: Fonts, sizes, colors, and styles.</li> <li>• Table Creation and Management</li> <li>• Spell Check and Language Tools</li> <li>• Printing Documents</li> </ul> <p>8. Spreadsheet Basics: [8 hrs.]</p> <ul style="list-style-type: none"> <li>• Introduction to Spreadsheet Software</li> <li>• Cell Manipulation: Entering and editing data.</li> <li>• Formulas and Functions: Basic arithmetic, statistical functions.</li> <li>• Data Analysis Techniques</li> <li>• Printing Spreadsheets</li> </ul> <p>9. Presentation Software: [8 hrs.]</p> <ul style="list-style-type: none"> <li>• Creating Presentations: Slide design and content organization.</li> <li>• Using Visuals: Images, charts, and graphs.</li> <li>• Presenting Slides: Techniques for effective delivery.</li> <li>• Printing Handouts and Slides</li> </ul> <p>10. Internet and Web Browsers: [8 hrs.]</p> <ul style="list-style-type: none"> <li>• Introduction to Computer Networks: LAN, WAN.</li> <li>• Understanding the Internet and its Applications</li> <li>• Web Browsing: Using browsers effectively.</li> <li>• Search Engines: Techniques for efficient searching.</li> </ul> |
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|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                               | <ul style="list-style-type: none"> <li>Understanding URLs, Domain Names, and IP Addresses</li> </ul> <p>11. Communications and Emails: [4 hrs.]</p> <ul style="list-style-type: none"> <li>Basics of Electronic Mail: Features and protocols.</li> <li>Setting Up an Email Account</li> <li>Sending and Receiving Emails</li> <li>Managing Email Correspondence</li> <li>Document Collaboration Tools</li> </ul> <p>12. Computer Troubleshooting: [4 hrs.]</p> <ul style="list-style-type: none"> <li>Common Hardware Problems: Identification and solutions.</li> <li>Common Software Issues: Errors, crashes, and performance issues.</li> <li>Basic Troubleshooting Techniques: Steps and tools for diagnostics.</li> </ul> <p>13. Review and Assessment: [8 hrs.]</p> <ul style="list-style-type: none"> <li>Mid-Term Examination: Assessing knowledge and skills acquired.</li> <li>Practical Assignments: Hands-on tasks to reinforce learning.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Learning and Teaching Strategies</b><br><b>استراتيجيات التعلم والتعليم</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Strategies</b>                                                             | <p>The learning and teaching strategies for the module on Computer Principles and operating systems can include:</p> <ol style="list-style-type: none"> <li>Lectures and Presentations: The instructor can deliver lectures and presentations to introduce and explain key concepts, theories, and principles related to computer fundamentals and operating systems. This can help students develop a foundational understanding of the subject matter.</li> <li>Practical Demonstrations: Hands-on practical demonstrations can be conducted to illustrate the usage of different computer components, software applications, and operating system functionalities. This can enhance students' understanding of the practical aspects of computer systems.</li> <li>Group Discussions and Collaborative Learning: Engaging students in group discussions and collaborative learning activities can promote active participation and deeper understanding. Students can discuss and analyze case studies, real-life examples, and scenarios related to computer fundamentals and operating systems.</li> <li>Laboratory Exercises: Practical laboratory exercises can provide students with opportunities to apply their knowledge and skills in a controlled environment. They can work on computer hardware, software installations, operating system configurations, and troubleshooting tasks, allowing them to gain practical experience.</li> <li>Assignments and Projects: Assignments and projects can be assigned to students to encourage independent learning and critical thinking. They can involve research, analysis, problem-solving, and the application of concepts learned in the module. This can help students develop their skills and deepen their understanding.</li> </ol> |

| <b>Student Workload (SWL)</b><br><b>الحمل الدراسي للطالب موزع على ١٥ اسبوع</b> |    |                                                                            |   |
|--------------------------------------------------------------------------------|----|----------------------------------------------------------------------------|---|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطالب خلال الفصل       | 49 | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطالب أسبوعياً       | 3 |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطالب خلال الفصل | 26 | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطالب أسبوعياً | 2 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطالب خلال الفصل              | 75 |                                                                            |   |

| Module Evaluation       |                 |                 |                     |            |                              |
|-------------------------|-----------------|-----------------|---------------------|------------|------------------------------|
| تقييم المادة الدراسية   |                 |                 |                     |            |                              |
|                         |                 | Time/<br>Number | Weight (Marks)      | Week Due   | Relevant Learning<br>Outcome |
| Formative<br>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<br>assessment | Midterm Exam    | 2 hours         | 10% (10)            | 7          | LO # 1-7                     |
|                         | Final Exam      | 3 hours         | 50% (50)            | 16         | All                          |
| Total assessment        |                 |                 | 100% (100<br>Marks) |            |                              |

| Delivery Plan (Weekly Syllabus) |                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| المناهج السبوعي النظري          |                                                                                                                                                                                                                                                                                                                                  |
|                                 | Material Covered                                                                                                                                                                                                                                                                                                                 |
| Week 1                          | <b>Introduction to Computer:</b> Concepts of Hardware and Software with their components; Concept of Computing, Data and Information; Applications of Information Electronics and Communication Technology (IECT); Connecting input/output devices, and peripherals to CPU.                                                      |
| Week 2-3                        | <b>Computer Components:</b> Computer Portions, Hardware Parts, I/O Units, Memory Types, Basic CPU Components, Computer Ports, Personal Computer (Features and Types).                                                                                                                                                            |
| Week 4-5                        | <b>Operating System and Graphical User Interface (GUI):</b> Operating System; Basics of Common Operating Systems; The User Interface, Using Mouse Techniques; Use of Common Icons, Status Bar, Using Menu and Menu-selection, Concept of Folders and Directories, Opening and closing of different Windows; Creating Short cuts. |
| Week 6-7                        | <b>Word Processing:</b> Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document.                                                                                                    |
| Week 8                          | <b>Review and Mid Exam</b>                                                                                                                                                                                                                                                                                                       |
| Week 9-10                       | <b>Spread Sheet:</b> Basics of Spreadsheet; Manipulation of cells, Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet.                                                                                                                                                                                    |
| Week 11-12                      | <b>Presentation Software:</b> Basics of presentation software; Creating Presentation; Preparation and Presentation of Slides; Slide Show; taking printouts of presentation / handouts.                                                                                                                                           |
| Week 13                         | <b>Introduction to Internet and Web Browsers:</b> Computer networks Basic: LAN, WAN; Concept of Internet and its Applications; connecting to internet, World Wide Web; Web Browsing software's, Search Engines; Understanding URL ; Domain name, IP Address.                                                                     |
| Week 14                         | <b>Communications and Emails:</b> Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails, Document collaboration.                                                                                                                                                |
| Week 15                         | <b>Computer Troubleshooting:</b> Identifying and solving common hardware and software problems that computer users encounter. Basic troubleshooting techniques and tools for diagnosing and resolving issues.                                                                                                                    |
| Week 16                         | <b>Preparatory week before the final Exam</b>                                                                                                                                                                                                                                                                                    |

| <b>Delivery Plan (Weekly Lab. Syllabus)</b><br>المنهاج الاسبوعي للمختبر |                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                         | <b>Material Covered</b>                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Week 1</b>                                                           | <b>Introduction to Computer:</b> <ul style="list-style-type: none"> <li>• Concepts of hardware and software components.</li> <li>• Fundamentals of computing, data, and information.</li> <li>• Applications of information electronics and communication technology (IECT).</li> <li>• Connecting input/output devices and peripherals to CPU.</li> </ul>                                              |
| <b>Week 2-3</b>                                                         | <b>Computer Components:</b> <ul style="list-style-type: none"> <li>• Exploration of computer portions and hardware parts.</li> <li>• Identifying I/O units, memory types, and basic CPU components.</li> <li>• Familiarizing with computer ports and personal computer features.</li> </ul>                                                                                                             |
| <b>Week 4-5</b>                                                         | <b>Operating System and GUI:</b> <ul style="list-style-type: none"> <li>• Basics of common operating systems.</li> <li>• Navigating the user interface using mouse techniques.</li> <li>• Utilizing common icons, status bar, menus, and directories.</li> <li>• Opening, closing, and creating shortcuts for different windows.</li> </ul>                                                             |
| <b>Week 6-7</b>                                                         | <b>Word Processing:</b> <ul style="list-style-type: none"> <li>• Exploring word processing basics.</li> <li>• Opening and closing documents.</li> <li>• Text creation, manipulation, and formatting.</li> <li>• Handling tables, spell check, language settings, and thesaurus.</li> <li>• Printing word documents.</li> </ul>                                                                          |
| <b>Week 8</b>                                                           | <b>Review and Mid-Exam</b>                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Week 9-10</b>                                                        | <b>Spreadsheet:</b> <ul style="list-style-type: none"> <li>• Spreadsheet software basics.</li> <li>• Manipulation of cells, formulas, and functions.</li> <li>• Editing and printing spreadsheets.</li> </ul>                                                                                                                                                                                           |
| <b>Week 11-12</b>                                                       | <b>Presentation Software:</b> <ul style="list-style-type: none"> <li>• Fundamentals of presentation software.</li> <li>• Creating presentations.</li> <li>• Preparing and delivering slide shows.</li> <li>• Taking printouts of presentations and handouts.</li> </ul>                                                                                                                                 |
| <b>Week 13</b>                                                          | <b>Introduction to Internet and Web Browsers</b> <ul style="list-style-type: none"> <li>• Computer networking concepts: LAN, WAN.</li> <li>• Concept of the internet and its applications.</li> <li>• Connecting to the internet and exploring the World Wide Web.</li> <li>• Using web browsing software and search engines.</li> <li>• Understanding URLs, domain names, and IP addresses.</li> </ul> |
| <b>Week 14</b>                                                          | <b>Communications and Emails</b> <ul style="list-style-type: none"> <li>• Basics of electronic mail.</li> <li>• Setting up email accounts.</li> <li>• Sending, receiving, and accessing emails.</li> <li>• Utilizing email for document collaboration.</li> </ul>                                                                                                                                       |
| <b>Week 115</b>                                                         | <b>Computer Troubleshooting:</b> <ul style="list-style-type: none"> <li>• Identifying and solving common hardware issues.</li> <li>• Identifying and solving common software problems.</li> <li>• Applying basic troubleshooting techniques and tools.</li> </ul>                                                                                                                                       |
| <b>Week 16</b>                                                          | <b>Preparatory week before the final Exam</b>                                                                                                                                                                                                                                                                                                                                                           |

| Learning and Teaching Resources<br>مصادر التعلم والتدريس |                                                                                                                                                                                                                                                                       |                           |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
|                                                          | Text                                                                                                                                                                                                                                                                  | Available in the Library? |
| <b>Required Texts</b>                                    | [1] G. Brown and D. Watson, "Cambridge IGCSE Information and Communication Technology," 3rd ed. Cambridge, U.K.: Cambridge Univ. Press, 2020.<br>[2] A. Evans, K. Martin, and M. A. Poatsy, "Technology in Action Complete," 16th ed. Boston, MA, USA: Pearson, 2020. | Yes                       |
| <b>Recommended Texts</b>                                 | [3] 2016, "أساسيات الحاسوب", الخضر علي الخضر أبحاث.                                                                                                                                                                                                                   | No                        |
| <b>Websites</b>                                          | The Collage E-Library                                                                                                                                                                                                                                                 |                           |

| Grading Scheme<br>مخطط الدرجات                                                                                                                                                                                                                                                                                                                                                       |                  |                     |           |                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|---------------------|-----------|---------------------------------------|
| Group                                                                                                                                                                                                                                                                                                                                                                                | Grade            | التقدير             | Marks (%) | Definition                            |
| <b>Success Group (50 - 100)</b>                                                                                                                                                                                                                                                                                                                                                      | 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           |
| <b>Fail Group (0 - 49)</b>                                                                                                                                                                                                                                                                                                                                                           | FX – Fail        | راسب (فقد المعالجة) | (45-49)   | More work required but credit awarded |
|                                                                                                                                                                                                                                                                                                                                                                                      | F – Fail         | راسب                | (0-44)    | Considerable amount of work required  |
| <b>Note:</b> Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above. |                  |                     |           |                                       |

# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

| Module Information                 |                                      |                      |                                                                                                                                                                                                                               |                                                                                      |
|------------------------------------|--------------------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| معلومات المادة الدراسية            |                                      |                      |                                                                                                                                                                                                                               |                                                                                      |
| Module Title                       | Democracy and Human Rights           |                      | Module Delivery                                                                                                                                                                                                               |                                                                                      |
| Module Type                        | Basic learning activities            |                      | <input checked="" type="checkbox"/> Theory<br><input type="checkbox"/> Lecture<br><input type="checkbox"/> Lab<br><input type="checkbox"/> Tutorial<br><input type="checkbox"/> Practical<br><input type="checkbox"/> Seminar |                                                                                      |
| Module Code                        | MTU1006                              |                      |                                                                                                                                                                                                                               |                                                                                      |
| ECTS Credits                       | 2                                    |                      |                                                                                                                                                                                                                               |                                                                                      |
| SWL (hr/sem)                       | 50                                   |                      |                                                                                                                                                                                                                               |                                                                                      |
| Module Level                       | 1                                    | Semester of Delivery |                                                                                                                                                                                                                               | 2                                                                                    |
| Administering Department           | CET                                  | College              | ETC                                                                                                                                                                                                                           |                                                                                      |
| Module Leader                      | Azhar Rahim Owaid                    |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:Azhar.Rahim.Owaid@alayen.edu.iq">Azhar.Rahim.Owaid@alayen.edu.iq</a> |
| Module Leader's Acad. Title        | Asst Lecturer                        |                      | Module Leader's Qualification                                                                                                                                                                                                 | M.Sc.                                                                                |
| Module Tutor                       | Nadwa Sabeeh Jaber                   |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:Nadwa.Sabeeh@alayen.edu.iq">Nadwa.Sabeeh@alayen.edu.iq</a>           |
| Peer Reviewer Name                 | Dr. Mustafa Mohsen Ghaithan Al-Badir |                      | e-mail                                                                                                                                                                                                                        | <a href="mailto:mostafa.albdair@alayen.edu.iq">mostafa.albdair@alayen.edu.iq</a>     |
| Scientific Committee Approval Date | 18/01/2025                           | Version Number       | 1.0                                                                                                                                                                                                                           |                                                                                      |

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

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

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

### Learning and Teaching Strategies

#### استراتيجيات التعلم والتعليم

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

### Student Workload (SWL)

#### الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

|                                                                                |    |                                                                           |      |
|--------------------------------------------------------------------------------|----|---------------------------------------------------------------------------|------|
| <b>Structured SWL (h/sem)</b><br>الحمل الدراسي المنتظم للطلاب خلال الفصل       | 33 | <b>Structured SWL (h/w)</b><br>الحمل الدراسي المنتظم للطلاب أسبوعيا       | 2.2  |
| <b>Unstructured SWL (h/sem)</b><br>الحمل الدراسي غير المنتظم للطلاب خلال الفصل | 17 | <b>Unstructured SWL (h/w)</b><br>الحمل الدراسي غير المنتظم للطلاب أسبوعيا | 1.13 |
| <b>Total SWL (h/sem)</b><br>الحمل الدراسي الكلي للطلاب خلال الفصل              | 50 |                                                                           |      |

### Module Evaluation

#### تقييم المادة الدراسية

|                         |                 | Time/N<br>umber | Weight (Marks)   | Week<br>Due | Relevant Learning<br>Outcome |
|-------------------------|-----------------|-----------------|------------------|-------------|------------------------------|
| Formative<br>assessment | Quizzes         | 2               | 10% (10)         | 5, 10       | LO #1-4 , LO #4-9            |
|                         | Assignments     | 2               | 20%              | 2, 12       | LO # 1-4, LO<br>#1,10        |
|                         | Projects / Lab. |                 |                  |             |                              |
|                         | Report          | 1               | 10% (10)         | 14          | LO # 1-10                    |
| Summative<br>assessment | Midterm Exam    | 2 hours         | 20% (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         |                                                                                                                                                                                                                                                     |
| الأسبوع الأول                   | التطور التاريخي لحقوق الانسان<br>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.<br>حقوق الانسان في العصور الوسطى والحديثة.                                                                                                                                 |
| الاسبوع الثالث                  | الاعتراف الاقليمي بحقوق الانسان على الصعيد الاوربي الامريكي، الافريقي، 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.<br>حقوق الانسان في المواثيق الدولية (الاعلان العالمي لحقوق الانسان العهد الدولي الخاصين بحقوق الانسان)                                                                              |
| الأسبوع السادس                  | حقوق الانسان في المواثيق الاقليمية ( الاتفاقية الأوروبية لحقوق الانسان الاتفاقية الامريكية لحقوق الانسان الميثاق الافريقي لحقوق الانسان الميثاق العربي لحقوق الانسان)                                                                               |
| الأسبوع السابع                  | امتحان منتصف الفصل الدراسي                                                                                                                                                                                                                          |
| الأسبوع الثامن                  | حقوق الانسان في التشريعات الوطنية (الدستور العراقي)                                                                                                                                                                                                 |
| الأسبوع التاسع                  | اشكال واجيال حقوق الانسان:<br>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<br>الضمانات الدستورية والقضائية والسياسية                                                                                                                                                            |
| الاسبوع الحادي عشر              | ضمانات حقوق الإنسان وحمايتها على الصعيد الاقليمي والدولي (دور الامم المتحدة، دور المنظمات الاقليمية جريمة الإبادة الجماعية.                                                                                                                         |
| الاسبوع الثاني عشر              | تصنيف الحريات العامة الحريات الأساسية والفردية حرية الامن والشعور بالاطمئنان حرية الذهاب والاياب، الحرية الشخصية                                                                                                                                    |
| الأسبوع الثالث عشر              | الحريات الفكرية والثقافية حرية الرأي حرية المعتقد حرية التعليم                                                                                                                                                                                      |
| الأسبوع الرابع عشر              | حرية الصحافة حرية التجمع حرية تشكيل الجمعيات                                                                                                                                                                                                        |
| الأسبوع الخامس عشر              | الحريات الاقتصادية والاجتماعية حرية العمل، حرية التملك حرية التجارة والصناعة                                                                                                                                                                        |

## Learning and Teaching Resources

### مصادر التعلم والتدريس

|                          | Text                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Available in the Library? |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| <b>Required Texts</b>    | ١. "حقوق الإنسان في العالم العربي: القضايا والتحديات"، تأليف: علي حجازي وجمال شعت. الطبعة: الطبعة الثانية، العام: ٢٠١٧.<br>٢. "مبادئ حقوق الإنسان: المفاهيم والقضايا الحديثة"، تأليف: أحمد المجالي وغان حمدان. الطبعة: الطبعة الأولى، العام: ٢٠١٩.                                                                                                                                                                                                                                                                                                                  | Yes                       |
| <b>Recommended Texts</b> | ١. "حقوق الإنسان والديمقراطية"، تأليف: مصطفى كامل محمود. الطبعة: الطبعة الأولى، العام: ٢٠١٥.<br>٢. "تاريخ حقوق الإنسان في العصور القديمة والوسطى"، تأليف: نبيل رزق. الطبعة: الطبعة الثالثة، العام: ٢٠١٢.<br>٣. "حقوق الإنسان في العراق: الواقع والتحديات"، تأليف: سعد الله عباس. الطبعة: الطبعة الأولى، العام: ٢٠١٤.<br>٤. "حقوق الإنسان في العراق: المفهوم والتطور"، تأليف: عبد الكريم السامرائي. الطبعة: الطبعة الأولى، العام: ٢٠١٨.<br>٥. "حقوق الإنسان في العراق: بين التحديات والآفاق"، تأليف: مجد السامرائي ولقاء الحربي. الطبعة: الطبعة الأولى، العام: ٢٠٢٠. | No                        |
| <b>Websites</b>          | The Collage E-Library                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                           |

## Grading Scheme

### مخطط الدرجات

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

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