



# MODULE DESCRIPTION FORM

## نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer Application		Module Delivery
Module Type	Basic		<input checked="" type="checkbox"/> Theory <input type="checkbox"/> Lecture <input checked="" type="checkbox"/> Lab <input type="checkbox"/> Tutorial <input type="checkbox"/> Practical <input type="checkbox"/> Seminar
Module Code	MTU1005		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	2	Semester of Delivery	
Administering Department	Medical Instrument Techniques Engineering - ENG - STE	College	Al-Safwa University College
Module Leader	Adil Yaseen Taha	e-mail	<a href="mailto:adil.yaseen@alsafwa.edu.iq">adil.yaseen@alsafwa.edu.iq</a>
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor		e-mail	
Peer Reviewer Name	Yaser Taha Abass	e-mail	
Scientific Committee Approval Date	20/10/2024	Version Number	2.0

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

## Module Aims, Learning Outcomes and Indicative Contents

### أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

<p><b>Module Aims</b> أهداف المادة الدراسية</p>	<p>The module aims to:</p> <ol style="list-style-type: none"><li>1. Security and Networking:<ul style="list-style-type: none"><li>• Understand the basic concepts and components of computer networks.</li><li>• Gain knowledge of network security principles and threats.</li><li>• Develop skills in network troubleshooting and problem-solving.</li></ul></li><li>2. E-Commerce:<ul style="list-style-type: none"><li>• Familiarize with the concepts and services of electronic banking.</li><li>• Understand the different modes of online banking, such as ATM, debit cards, phone banking, SMS banking, and mobile banking.</li></ul></li><li>3. Computer Troubleshooting:<ul style="list-style-type: none"><li>• Develop the ability to identify and solve common hardware and software issues faced by computer users.</li><li>• Learn basic troubleshooting techniques and tools for diagnosing and resolving computer problems.</li></ul></li><li>4. Introduction to AI:<ul style="list-style-type: none"><li>• Understand the definition and history of artificial intelligence.</li><li>• Explore the various AI techniques and approaches.</li><li>• Recognize the challenges and ethical considerations in AI.</li></ul></li></ol>
<p><b>Module Learning Outcomes</b> مخرجات التعلم للمادة الدراسية</p>	<ol style="list-style-type: none"><li>1. Security and Networking:<ul style="list-style-type: none"><li>• Understand the basic concepts of computer networks and their components</li><li>• Gain knowledge of network security principles and be able to identify network threats</li><li>• Develop troubleshooting skills to diagnose and resolve network issues</li></ul></li><li>2. E-Commerce: Comprehend the concepts and services of electronic banking, including online banking, ATM, debit cards, phone banking, SMS banking, and mobile banking</li><li>3. Computer Troubleshooting:<ul style="list-style-type: none"><li>• Ability to identify and solve common hardware and software problems encountered by computer users</li><li>• Demonstrate proficiency in using basic troubleshooting techniques and tools</li></ul></li><li>4. Introduction to AI:<ul style="list-style-type: none"><li>• Define and explain the concept of artificial intelligence</li><li>• Understand the history and evolution of AI</li><li>• Explore various AI techniques and approaches</li><li>• Recognize the challenges and ethical considerations in AI development and deployment</li></ul></li><li>5. AI in Our Daily Lives: Understand the applications of AI in smartphones and virtual assistants</li><li>6. Applications of AI: Identify and analyze the use of AI in various domains, such as education, healthcare, finance, transportation, marketing, and advertising</li><li>7. AI and Society:<ul style="list-style-type: none"><li>• Examine the social, international, and future implications of AI</li><li>• Understand how AI affects human society and the future of humanity</li></ul></li><li>8. Ethical Challenges in AI: Identify and discuss the ethical considerations in AI, including privacy, surveillance, and the impact on the job market</li><li>9. The Future of AI: Explore future trends and emerging technologies in the field of artificial intelligence.</li></ol>
<p><b>Indicative Contents</b> المحتويات الإرشادية</p>	<p>The indicative contents for the Computer Application module may include:</p> <ol style="list-style-type: none"><li>1. Security and Networking: [4 hrs.]<ul style="list-style-type: none"><li>• What is a network?</li><li>• Types of networks.</li><li>• Basic network components.</li><li>• Network security basics.</li><li>• Understanding network threats.</li><li>• Network troubleshooting.</li></ul></li><li>2. E-Commerce: [4 hrs.]</li></ol>

	<ul style="list-style-type: none"> <li>• Concepts of electronic banking services.</li> <li>• Online banking.</li> <li>• ATM and debit card services.</li> <li>• Phone banking.</li> <li>• SMS banking.</li> <li>• Electronic alert.</li> <li>• Mobile banking.</li> </ul> <ol style="list-style-type: none"> <li>3. Computer Troubleshooting: [4 hrs.] <ul style="list-style-type: none"> <li>• Identifying and solving common hardware and software problems that computer users encounter.</li> <li>• Basic troubleshooting techniques and tools for diagnosing and resolving issues.</li> </ul> </li> <li>4. Introduction to AI: [4 hrs.] <ul style="list-style-type: none"> <li>• Definition of AI.</li> <li>• History of AI.</li> <li>• AI techniques and approaches.</li> <li>• Challenges and ethical considerations in AI.</li> </ul> </li> <li>5. AI in Our Daily Lives: [4 hrs.] <ul style="list-style-type: none"> <li>• AI in smartphones and virtual assistants like Siri or Google Assistant.</li> </ul> </li> <li>6. Applications of AI: [4 hrs.] <ul style="list-style-type: none"> <li>• Education.</li> <li>• Healthcare.</li> <li>• Finance.</li> <li>• Transportation.</li> <li>• Marketing.</li> <li>• Advertising.</li> </ul> </li> <li>7. AI and Society: [4 hrs.] <ul style="list-style-type: none"> <li>• How AI affects social, international relations.</li> <li>• AI and the future of humanity.</li> </ul> </li> <li>8. Ethical Challenges in AI: [4 hrs.] <ul style="list-style-type: none"> <li>• AI ethics.</li> <li>• Privacy and surveillance.</li> <li>• The impact of AI on the job market.</li> </ul> </li> <li>9. The Future of AI: [4 hrs.] <ul style="list-style-type: none"> <li>• Future trends in AI.</li> <li>• Recent research and emerging technologies.</li> </ul> </li> </ol>
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## Learning and Teaching Strategies

### استراتيجيات التعلم والتعليم

<b>Strategies</b>	<p>The learning and teaching strategies employed in the applied mathematics module are designed to facilitate active engagement, critical thinking, and practical application of mathematical concepts. The following strategies are commonly used:</p> <ol style="list-style-type: none"> <li>1. Lectures: Lectures serve as the primary mode of content delivery, where instructors present key concepts, theories, and techniques. Lectures may include visual aids, examples, and demonstrations to enhance understanding and provide real-world context.</li> <li>2. Interactive Discussions: Interactive discussions encourage student participation and facilitate deeper understanding of the material. Students are encouraged to ask questions, share their insights, and engage in discussions on specific topics or problem-solving strategies.</li> <li>3. Problem-solving Sessions: Problem-solving sessions allow students to apply mathematical principles to solve a variety of problems. These sessions may be conducted in groups or individually, allowing students to collaborate, exchange ideas, and develop problem-solving skills.</li> </ol>
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	<ol style="list-style-type: none"> <li>4. <b>Practical Exercises:</b> Practical exercises involve hands-on application of mathematical concepts through computational tasks, modeling exercises, or simulations. These exercises reinforce theoretical knowledge and help students develop proficiency in using mathematical tools and software.</li> <li>5. <b>Case Studies and Real-world Applications:</b> Case studies and real-world applications demonstrate the relevance of mathematics in various fields. Students analyze and solve mathematical problems based on real-life scenarios, enabling them to connect theoretical concepts with practical applications.</li> <li>6. <b>Computer-based Learning:</b> Computer-based learning resources, such as online tutorials, interactive simulations, and mathematical software, are utilized to enhance students' understanding and proficiency in applying mathematical techniques.</li> <li>7. <b>Group Projects:</b> Group projects promote teamwork, communication, and problem-solving skills. Students work collaboratively on mathematical projects or research assignments, allowing them to explore advanced topics or applications of mathematics.</li> <li>8. <b>Self-directed Learning:</b> Students are encouraged to take responsibility for their learning by engaging in self-directed study. This may involve reading recommended textbooks, exploring additional resources, and practicing problem-solving independently.</li> <li>9. <b>Assessments:</b> Regular assessments, including quizzes, tests, and assignments, evaluate students' understanding and application of mathematical concepts. These assessments provide feedback and help track progress throughout the module.</li> <li>10. <b>Tutorial Sessions:</b> Tutorial sessions provide opportunities for students to seek clarification, discuss challenging topics, and receive individualized guidance from instructors or teaching assistants.</li> </ol>
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### Student Workload (SWL)

الحمل الدراسي للطالب محسوب ل ١٥ اسبوعا

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

### Module Evaluation

تقييم المادة الدراسية

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

Material Covered	
<b>Week 1</b>	<b>Security and Networking:</b> What is a network? Types of networks, basic network components, network security basics, network troubleshooting.
<b>Week 2</b>	<b>E-Commerce:</b> Concepts of electronic banking services, including online banking, ATM and debit card services, phone banking, SMS banking, electronic alert, and mobile banking.

<b>Week 3-4</b>	<b>Computer Troubleshooting:</b> Identifying and solving common hardware and software problems that computer users encounter, including basic troubleshooting techniques and tools.
<b>Week 5-6</b>	<b>Introduction to AI:</b> Definition of AI, history of AI, AI techniques and approaches, challenges and ethical considerations.
<b>Week 7</b>	Review and Mid Exam
<b>Week 8-9</b>	<b>AI in Our Daily Lives:</b> AI in smartphones and virtual assistants like Siri or Google Assistant.
<b>Week 10-12</b>	<b>Applications of AI:</b> Education, healthcare, finance, transportation, marketing, and advertising.
<b>Week 13</b>	<b>AI and Society:</b> How AI affects social, international relations, and the future of humanity.
<b>Week 14</b>	<b>Ethical Challenges in AI:</b> AI ethics, privacy, surveillance, and the impact of AI on the job market.
<b>Week 15</b>	<b>The Future of AI:</b> Future trends in AI, recent research, and emerging technologies.
<b>Week 16</b>	Preparatory week before the final Exam.

<b>Delivery Plan (Weekly Lab. Syllabus)</b> المنهاج الاسبوعي للمختبر	
<b>Week</b>	<b>Material Covered</b>
<b>Week 1</b>	Introduction to Networking <ul style="list-style-type: none"> <li>- Setting up a basic network using routers and switches</li> <li>- Identifying different types of networks (LAN, WAN, etc.)</li> <li>- Overview of network components (cables, connectors, etc.)</li> </ul>
<b>Week 2</b>	Network Security Basics <ul style="list-style-type: none"> <li>- Implementing basic security measures (firewalls, antivirus)</li> <li>- Conducting a risk assessment for a sample network</li> <li>- Exploring network security tools and software</li> </ul>
<b>Week 3</b>	E-Commerce Services <ul style="list-style-type: none"> <li>- Simulating online banking transactions</li> <li>- Setting up an ATM simulator</li> <li>- Exploring mobile banking applications</li> </ul>
<b>Week 4</b>	Computer Troubleshooting Techniques <ul style="list-style-type: none"> <li>- Hands-on troubleshooting of common hardware issues</li> <li>- Software troubleshooting exercises using diagnostic tools</li> <li>- Documenting troubleshooting procedures</li> </ul>
<b>Week 5</b>	Introduction to AI <ul style="list-style-type: none"> <li>- Exploring AI development environments (e.g., TensorFlow, PyTorch)</li> <li>- Basic programming exercises in AI (e.g., simple algorithms)</li> <li>- Discussion on the ethical considerations of AI</li> </ul>
<b>Week 6</b>	AI in Daily Life <ul style="list-style-type: none"> <li>- Analyzing the functionality of virtual assistants (Siri, Google Assistant)</li> <li>- Creating simple AI-based applications (chatbots, etc.)</li> <li>- Evaluating user interactions with AI technologies</li> </ul>
<b>Week 7</b>	Applications of AI <ul style="list-style-type: none"> <li>- Case studies on AI applications in healthcare and finance</li> <li>- Developing a simple AI model for a specific application (e.g., predictive analysis)</li> <li>- Group discussions on marketing and advertising with AI</li> </ul>
<b>Week 8</b>	AI and Society <ul style="list-style-type: none"> <li>- Research project on the societal impact of AI technologies</li> <li>- Group presentations on international relations affected by AI</li> </ul>

	- Discussion on the future implications of AI
<b>Week 9</b>	Ethical Challenges in AI <ul style="list-style-type: none"> <li>- Debating ethical scenarios related to AI applications</li> <li>- Analyzing case studies of AI ethics violations</li> <li>- Discussing privacy issues and surveillance implications</li> </ul>
<b>Week 10</b>	The Future of AI <ul style="list-style-type: none"> <li>- Researching recent advancements in AI technologies</li> <li>- Group projects on emerging technologies in AI</li> <li>- Presentations on future trends and predictions in AI</li> </ul>
<b>Week 11</b>	Review and Mid Exam <ul style="list-style-type: none"> <li>- Review of key concepts and practical skills learned</li> <li>- Mock exam scenarios and feedback sessions</li> <li>- Q&amp;A sessions to clarify any doubts</li> </ul>
<b>Week 12-15</b>	Preparatory Week for Final Exam <ul style="list-style-type: none"> <li>- Comprehensive review of all topics covered in the course</li> <li>- Final project presentations</li> <li>- Discussion on exam strategies and key focus areas</li> </ul>

## Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
<b>Required Texts</b>	Banafa A. Introduction to Artificial Intelligence (AI). CRC Press; 2024 May 13.	Yes
<b>Recommended Texts</b>		Yes
<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.