

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	Computer applications		Module Delivery
Module Type	Basic		☒ Theory ☐ Lecture ☒ Lab ☐ Tutorial ☐ Practical ☐ Seminar
Module Code	MTU1005		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGII 2	Semester of Delivery	
Administering Department	MIET	College	EETC
Module Leader	Dr.Hayder Kareem Algabri		e-mail
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	Dr.Hayder Kareem Algabri		e-mail
Peer Reviewer Name		e-mail	
Scientific Committee Approval Date	15/3/2026	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	
Module Aims أهداف المادة الدراسية	Introduction to Networking To establish a fundamental understanding of how data moves across digital landscapes, focusing on the theoretical models (OSI/TCP-IP) that underpin global connectivity. 2 Networking Devices To bridge theory with hardware by providing hands-on conceptual knowledge of the physical and logical components (switches, routers, media) required to build a functional network. 3 Introduction to Security To instill a "security-first" mindset by introducing the CIA Triad and the landscape of digital threats that challenge modern information systems. 4 Security To move beyond theory into defense, equipping students with the technical strategies (encryption, firewalls, and access control) needed to protect data and infrastructure. 5 E-Commerce To explore the intersection of technology and business, focusing on the secure architectures and payment systems that enable global digital trade. 6 Computer Troubleshooting To develop a systematic, analytical approach to problem-solving, moving from "trial-and-error" to a structured methodology for hardware and software recovery. 7 Introduction to AI To demystify Artificial Intelligence by defining its core concepts, historical evolution, and the fundamental differences between simple automation and machine learning. 8 AI in Our Daily Lives To raise awareness of the "invisible" AI integrated into modern society, from recommendation engines to personal assistants, and how they impact consumer behavior. 9 Applications of AI-1 To explore the frontier of Generative AI and Natural Language Processing (NLP), focusing on how machines understand, generate, and manipulate human language. 10 Applications of AI-2 To investigate Computer Vision and Robotics, focusing on how AI perceives the physical world through sensors and interacts with it via autonomous movement. 11 Applications of AI-3 To examine the role of Expert Systems and Predictive Analytics in high-stakes professional fields like healthcare, finance, and industrial optimization. 12 AI Society To analyze the socio-economic transformations driven by AI, specifically regarding the future of the workforce, education, and social interactions. 13 Ethical Challenges in AI To foster critical thinking regarding the moral implications of AI, including algorithmic bias, data privacy, and the "black box" of machine decision-making. 14 The Future of AI To synthesize current trends to forecast the trajectory of AI, debating the possibilities of AGI (General Intelligence) and the necessity of long-term AI safety.
Module Learning Outcomes	Following the established aims, here are the Learning Outcomes for each module. These are designed to be measurable, ensuring that students can demonstrate both their theoretical grasp and practical competencies across networking, security, and AI.
مخرجات التعلم للمادة الدراسية	Section 1: Networking & Security 1. Introduction to Networking LO1: Distinguish between different network types (LAN, WAN, MAN) and physical topologies.

	• LO2: Map data flow accurately across the layers of the OSI and TCP/IP models. • LO3: Explain the fundamental principles of packet switching and circuit switching. 2. Networking Devices • LO1: Identify and describe the function of Layer 1, 2, and 3 devices (Hubs, Switches, Routers). • LO2: Select appropriate transmission media (Fiber, Copper, Wireless) based on distance and bandwidth requirements. • LO3: Demonstrate the ability to perform basic configuration on a network switch or wireless access point. 3. Introduction to Security • LO1: Define and apply the CIA Triad (Confidentiality, Integrity, Availability) to real-world scenarios. • LO2: Categorize various digital threats, including malware, phishing, and denial-of-service (DoS) attacks. • LO3: Recognize the importance of "Security by Design" in system development. 4. Security • LO1: Implement essential defense mechanisms, including firewalls, ACLs, and VPNs. • LO2: Compare symmetric and asymmetric encryption and their roles in securing data in transit. • LO3: Execute a basic vulnerability assessment to identify potential weak points in a network.
	Section 2: Systems & Troubleshooting 5. E-Commerce • LO1: Analyze the technical infrastructure required to support B2B, B2C, and C2C business models. • LO2: Evaluate the security protocols (SSL/TLS, PCI-DSS) necessary for safe online transactions. • LO3: Understand the role of APIs and databases in managing digital storefronts. 6. Computer Troubleshooting • LO1: Apply a standardized 6-step troubleshooting methodology to resolve technical issues. • LO2: Diagnose and repair common hardware failures related to RAM, storage, and power. • LO3: Utilize system logs and diagnostic tools to identify OS-level software conflicts.
	Section 3: The AI Curriculum 7. Introduction to AI • LO1: Articulate the difference between Narrow AI, General AI, and Machine Learning. • LO2: Summarize the key milestones in AI history and their impact on current technology. • LO3: Identify the core components of an "Intelligent Agent." 8. AI in Our Daily Lives • LO1: Critique the influence of recommendation algorithms on user behavior and privacy. • LO2: Identify AI integration in common consumer products like smart homes and navigation apps. • LO3: Explain how data collection feeds the cycle of AI personalization.

	9. Applications of AI-1 (NLP & Generative AI) • LO1: Demonstrate effective prompt engineering to generate structured text and code. • LO2: Explain the basic architecture of Large Language Models (LLMs). • LO3: Identify the risks of AI hallucinations and misinformation in generated content. 10. Applications of AI-2 (Computer Vision & Robotics) • LO1: Describe the process of feature extraction in image recognition. • LO2: Analyze how robots use sensor fusion to navigate dynamic environments. • LO3: Evaluate the safety and efficiency of autonomous systems in industrial settings. 11. Applications of AI-3 (Expert Systems & Analytics) • LO1: Compare rule-based expert systems with modern data-driven predictive models. • LO2: Explain how AI identifies patterns in financial fraud detection and medical diagnostics. • LO3: Understand the value of "Big Data" in training high-accuracy predictive systems.
	Section 4: Ethics & Future Impact 12. AI Society • LO1: Assess the impact of automation on the global labor market and identify "future-proof" skills. • LO2: Discuss how AI can either bridge or widen the digital divide between different populations. • LO3: Evaluate the role of AI in personalizing education and training. 13. Ethical Challenges in AI • LO1: Detect and mitigate bias within training datasets and algorithmic outputs. • LO2: Debate the trade-offs between AI convenience and individual privacy/surveillance. • LO3: Apply ethical frameworks to determine accountability in AI-driven decision-making. 14. The Future of AI • LO1: Speculate on the societal implications of reaching Artificial General Intelligence (AGI). • LO2: Identify emerging technologies, such as Quantum AI, that may redefine the field. • LO3: Formulate a personal or organizational stance on AI safety and alignment protocols.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	To effectively deliver this curriculum, the pedagogical approach should shift from theoretical instruction to active, project-based learning. In the Networking and Security sections, strategies should focus on simulated environments (using tools like Cisco Packet Tracer) and "sandbox" troubleshooting labs where students can safely break and fix systems. For the E-Commerce and AI modules, the strategy should emphasize case-study analysis and interactive prompt-engineering workshops, allowing students to transition from passive consumers to active creators. Finally, the societal and ethical components are best served through structured debates and "Ethics Red-Teaming," where students must argue multiple perspectives on AI

	governance, ensuring they develop the critical thinking skills necessary for an AI-integrated workforce.
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Student Workload (SWL)

الحمل الدراسي للطلاب محسوب لـ ١٥ اسبوعا

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

Module Evaluation

تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Networking
Week 2	Networking
Week 3	Introduction to Security
Week 4	Security
Week 5	E-Commerce
Week 6	Computer Troubleshooting
Week 7	Introduction to AI
Week 8	AI in our daily lives
Week 9	Applications of AI-1
Week 10	Applications of AI-2
Week 11	Applications of AI-3
Week 12	AI Society
Week 13	Ethical challenges in AI
Week 14	The future of AI
Week 15	Preparation for the final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	Material Covered
Week 1	Introduction to Lab Environment and Office Suite - Lab setup and software installation. Overview of Microsoft Office Suite tools and features.
Week 2	Microsoft Word Lab - Creating, editing, and formatting documents. Inserting and formatting images and tables.
Week 3	Microsoft Excel Lab - Creating spreadsheets and entering data. Formulas and functions for calculations.
Week 4	Microsoft PowerPoint Lab - Creating, editing, and designing slides. Adding multimedia elements and animations.
Week 5	Word Processing Techniques Lab - Mail merge and document collaboration exercises. Creating professional documents with advanced formatting.
Week 6	Data Analysis Lab with Excel - Advanced formula and function exercises. Sorting, filtering, and analyzing data.
Week 7	Presentation Design Lab with PowerPoint - Applying design principles to create visually appealing slides. Adding interactive elements and customizing slide layouts.
Week 8	Collaboration and Sharing Lab - Collaborative document editing and reviewing. Sharing and protecting documents with permissions.
Week 9	Automation and Customization Lab - Recording and running macros for repetitive tasks. Customizing the ribbon and creating shortcuts.
Week 10	Integrating Office Applications Lab - Linking and embedding data between Word, Excel, and PowerPoint. Importing and exporting data between applications.
Week 11	Advanced Tips and Tricks Lab - Exploring time-saving techniques and productivity hacks. Troubleshooting common issues and errors.
Week 12-15	Project-based Labs - Students work on individual or group projects that integrate Word, Excel, and PowerPoint skills. Projects can involve tasks such as creating a professional report, analyzing data, or designing an interactive presentation.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	M. E. Vermaat, S. M. Freund, C. Hoisington, and E. Schmieder, "Microsoft Office 365 & Office 2019: Introductory," Boston, MA: Cengage Learning, 2020.	Yes
Recommended Texts	Triad Interactive, Inc., "Microsoft Office 2019: A Skills Approach," Boston, MA: Cengage Learning, 2019.	Yes
Websites	The Collage E-Library	

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

د.أ. هارون عبد الكاظم شهد
عميد

عميد الكلية : أ.د. هارون عبد الكاظم شهد
التاريخ : 2026 / 3 / 15

رئيس القسم : أ.د. محمود شاكر نصر

التاريخ : 2026 / 3 / 15

اسم التدريسي: م.د. حيدر كريم
التاريخ : 2026 / 3 / 15

ملاحظة:

تم تغيير المحتوى الخاص بالمادة استنادا الى كتاب الوزارة 11009 في 2024/10/9 والذي يقضي بتغيير محتوى هذه المادة الى موضوع الازكاء الاصطناعي AI وبناءا عليه تم تغيير محتوى المادة.