MODULE DESCRIPTOR FORM

Module Information					
Module Title	**WEB DESIGN AND PROGRAMMING**			**Module Delivery**	
Module Type	**CORE**			☒ **Theory** ☐ **Lecture** ☒ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**IT341**				
ECTS Credits	**6**				
SWL (hr/sem)	**150**				
Module Level	3		**Semester of Delivery**	5	
Administering Department	Information technology		**College**	College of Sciences	
Module Leader	**Nabeel Sadiq Alshreefy**		**e-mail**	**Nabeel.alshreefy@uowa.edu.iq**	
Module Leader's Acad. Title	Asst.lect		**Module Leader's Qualification**	M.Sc	
Module Tutor			**e-mail**		
Peer Reviewer name			**e-mail**		
Review Committee Approval	17/6/2023		**Version Number**	1.0	

Relation With Other Modules			
Prerequisite module		**Semester**	3,4
Co-requisites module	None	**Semester**	

Department Head Approval **Dean of the College Approval**

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	The aim of the Web Technologies module is to provide students with a comprehensive understanding of key web development concepts, tools, and techniques. Students will learn front-end skills, including HTML, CSS, and JavaScript, to design visually appealing and interactive web interfaces. They will also gain knowledge about essential web technologies such as TCP/IP, sessions, and cookies. The module emphasizes industry best practices, focusing on code organization, performance optimization, and accessibility considerations. Additionally, a final project, developed in collaboration with group members, serves as a demonstration of the skills and knowledge acquired throughout the module. By the end of the module, students will be proficient in designing and building engaging web interfaces and will be equipped to apply their learning in real-world web development scenarios.
Module Learning Outcomes	1. Module Learning Outcomes for Web Technologies (Front-End Focus): 2. Demonstrate an understanding of the fundamental concepts of web technologies and their significance in modern web development. 3. Apply HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets) to create visually appealing and well-structured web pages. 4. Utilize JavaScript to implement interactive and dynamic functionality on web pages, including form validation, event handling, and DOM manipulation. 5. Explain the basic principles of the TCP/IP protocol and understand how it enables communication over the internet. 6. Implement session management techniques, such as using cookies, to maintain user state and personalize web experiences. 7. Design user-friendly and responsive web interfaces that adapt to different devices and screen sizes using responsive design techniques. 8. Apply best practices in front-end development, including code organization, accessibility considerations, and cross-browser compatibility. 9. Understand the importance of web performance optimization techniques, including minimizing file sizes, leveraging caching, and reducing page load times. 10. By achieving these learning outcomes, students will develop a solid foundation in front-end web development skills, enabling them to create engaging and functional web interfaces while adhering to industry best practices.
Indicative Contents	Indicative content for the Web Technologies subject includes the following: ● Introduction to Web Technologies This section provides a comprehensive introduction to web technologies. It covers the fundamental concepts and principles that underpin the World Wide Web, including the client-server architecture, request-response model, and the role of web browsers. Additionally, it explores the evolution of web technologies, from static HTML web pages to dynamic web applications, and discusses the importance of standards and protocols in web development. ● Front-End Development Front-end development focuses on designing and building the user interface of

	web applications. This topic covers essential skills and tools used in front-end development, such as HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), and JavaScript. It includes a discussion on creating responsive and accessible web interfaces, as well as incorporating interactivity and multimedia elements into web pages. ● Web Development Tools and Workflow This section focuses on the various tools and workflows used in modern web development. It introduces integrated development environments (IDEs), code editors, version control systems, and task runners. It also covers topics such as debugging techniques, browser developer tools, and deployment strategies for web applications. By covering these key areas in web technologies, students will gain a solid foundation in both the theory and practical aspects of web development, enabling them to design and build effective web applications.

Learning and Teaching Strategies	
Strategies	In teaching web technologies, effective learning and teaching strategies are crucial for providing students with a comprehensive understanding of the subject. A solid theoretical foundation is essential, encompassing the history, protocols, and standards that have shaped web technology. This knowledge contextualizes the significance of design and development practices. To reinforce learning, hands-on strategies such as practical exercises, coding challenges, and real-world examples engage students and allow them to apply their theoretical knowledge. Active participation through group projects and individual assignments fosters skill development and problem-solving abilities. Regular feedback and guidance ensure students are well-prepared to tackle real-world web development scenarios confidently. By combining theory with practical application, students gain the necessary technical skills and critical thinking abilities to excel in designing and building the front end of web applications.

Student Workload (SWL)			
Structured SWL (h/sem)	65	**Structured SWL (h/w)**	5
Unstructured SWL (h/sem)	85	**Unstructured SWL (h/w)**	6
Total SWL (h/sem)	150		

Module Evaluation					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	%10	3,6	1,2
	Assignments	2	%10	4,8	1,2,3
	Report	2	%10	5,9	3,4
	Report	1	%10	11	1,2,3,4,5,6,7,8,9
Summative assessment	Midterm Exam	1	%10	7	
	Final Exam	1	%50	16	
Total assessment			%100		

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Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظر ي	
	Material Covered
Week 1	Introduction about WWW
Week 2	Internet and Domain Name System
Week 3	World Wide Web and HTTP
Week 4	Web Documents Types
Week 5	Cookie, session, OSI Layer
Week 6	HTML I
Week 7	HTML II
Week 8	Final Project Orientation Session
Week 9	Using Table and DIV in HTML
Week 10	Cascading Style Sheets
Week 11	Page layout and HTML forms
Week 12	JavaScript fundamentals
Week 13	JavaScript Functions and Forms
Week 14	Event Handlers and Document Objects
Week 15	Introduction of Front-End Framework
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	HTML Structure and Tags Lab: Hands-on lab to practice creating the basic structure of an HTML document, understanding the role of HTML tags, and organizing content using headings, paragraphs, lists, and semantic elements.
Week 2	CSS Styling Lab: Practical exercises to apply CSS rules and properties for styling web page elements, including fonts, colors, backgrounds, borders, and box model properties.
Week 3	CSS Layout Lab: Lab session focusing on creating responsive layouts using CSS grid and flexbox, experimenting with different column arrangements, alignment, and responsive breakpoints.
Week 4	Media Queries Lab: Interactive lab to explore the implementation of media queries in CSS, designing responsive designs that adapt to different devices, screen sizes, and orientations.
Week 5	JavaScript Basics Lab: Hands-on exercises to reinforce understanding of JavaScript fundamentals, including variables, data types, operators, conditionals, loops, and functions.
Week 6	DOM Manipulation Lab: Practical lab activities to manipulate the DOM using JavaScript, dynamically updating content, handling events, and modifying element properties.
Week 7	JavaScript Event Handling Lab: Lab session to practice event handling techniques, attaching event listeners, and responding to user interactions, such as button clicks, form submissions, and mouse movements.
Week 8	Form Validation Lab: Interactive lab exercises to implement form validation using JavaScript, ensuring data integrity and providing user feedback for input errors.
Week 9	Responsive Web Design Lab: Lab activities focused on designing and building responsive web pages using CSS media queries and flexible layouts, testing the responsiveness across different devices and screen sizes.
Week 10	JavaScript Libraries Lab: Hands-on lab session to explore popular front-end JavaScript libraries or frameworks.
Week 11	CSS Preprocessors Lab: Practical exercises using CSS preprocessors (e.g., Sass or Less) to enhance the CSS workflow, including creating variables, mixins, and nesting rules for more maintainable and modular stylesheets.
Week 12	Web Accessibility Lab: Lab session dedicated to implementing web accessibility best practices, including using semantic HTML, adding alternative text to images, and testing accessibility features using screen readers.
Week 13	Web Performance Optimization Lab: Lab activities to optimize web page performance, including minifying CSS and JavaScript files, optimizing image sizes, and leveraging caching techniques for faster loading times.
Week 14	Div-based Layout Lab: Hands-on lab to explore the concept of div-based layouts in HTML and CSS. Students will practice creating multi-column layouts, using div elements and CSS properties such as float, clear, and positioning to achieve different page structures and designs.

Week 15	Table-based Layout Lab: Lab session focusing on creating page layouts using HTML tables. Students will learn how to structure content using table elements, apply CSS styles to customize table appearance, and understand the advantages and limitations of table-based layouts in modern web development.
Week 16	Final Exam

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	● HTML for the World Wide Web, Fifth Edition, with XHTML and CSS by Elizabeth Castro ● JavaScript A Beginner's Guide Fourth Edition John Pollock	
Recommended Texts		
Websites	http://www.w3schools.com	

APPENDIX:

GRADING SCHEME				
Group	**Grade**	**Mark**	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Fair / Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Pass / Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	Fail (Pending)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(0-44)	Considerable amount of work required
Note:				

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 DESCRIPTOR FORM

Module Information					
Module Title	OPERATING SYSTEM			**Module Delivery**	
Module Type	CORE			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	IT3031				
ECTS Credits	6				
SWL (hr/sem)	150				
Module Level			**Semester of Delivery**		
Administering Department	Information technology		**College**	College of Sciences	
Module Leader	Ali Abdulhussein		**e-mail**	Aliabdulhussein@uowa.edu.iq	
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	M.SC	
Module Tutor	Ali Abdulhussein		**e-mail**	aliabdulhussein@uowa.edu.iq	
Peer Reviewer name			**e-mail**		
Review Committee Approval			**Version Number**	1.0	

Relation With Other Modules			
Prerequisite module	IT202	**Semester**	
Co-requisites module		**Semester**	

Department Head Approval **Dean of the College Approval**

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. Understand the rationale behind the current design and implementation of modern OS's by considering the historic evolution of various OS 2. Familiarize students with the all services provided by Operating System. 3. Understand different approaches to memory management. 4. Students should be able to use system calls for managing processes, memory and the file system. 5. Understand the importance of using threads and processes in an operating system. 6. Recognize and differentiate between uni-process and multi processes and how processes are synchronized and scheduled. 7. Learn how to maintain a consistent view of data across the OS. 8. Expose the role of synchronization in OS and the problems that could arise if synchronization is not handled properly. 9. Identify the importance of Semaphores as a way of preventing Race Conditions and other more advanced alternatives techniques
Module Learning Outcomes	1. Identify the fundamental concepts of operating system and the main services provided. 2. Categorize the various components of a computer system and how they interact with an operating system; 3. Explain the different types of operating systems and the major systems in use today. 4. Describe the System calls and identify main system call categories. 5. Discuss the importance processes and threads and in an operating system; 6. Describe the process concurrency issues. 7. Discuss context switching and how it is used in an operating system. 8. Identify classic synchronization problems such as race condition and inter-process communication. 9. Describe how semaphores can be used in an operating system to prevent synchronization issues.
Indicative Contents	Indicative content includes the following. 1. **Introduction to Operating Systems** It deals with a high level introduction to Operating Systems (OS). The Operating System acts as a platform of information exchange between your computer's hardware and the applications running on it. First, it starts with a discussion on some of the earliest Operating Systems. Review the general OS structure and give a basic functional overview. Discuss the services of the modern Operating Systems and devices that we are familiar with. 2. **System Calls and Interrupts**. It explains the system call(a method for a computer program to request a service from the kernel of OS) and its role in operating systems on which it is running; it is a method of interacting with the operating system via programs. It acts as a link between the operating system and a process, allowing user-level programs to request operating system services. The kernel system can only be accessed using system calls. Identify the main categories of system calls in various operating systems 3. **Processes and Threads** It discusses two central building blocks of modern operating systems: Processes and Threads. Processes (instances of a running computer program) and threads (a specific task running

	within a program) are integral to the understanding of how an OS executes a program and the communication of information between each of the computer's architectural layers. We will start with an overview of each concept, including definitions, uses, and types. it discusses the commonalities and differences between processes and threads. It ends with a discussion on Context Switches and the important role they play in CPU scheduling. 4. **Synchronization** Generally, there is a number of different entities will need to access data, it is important to learn how to maintain a consistent view of data across the OS. That's why we need a good synchronization management system. Providing an overview of why synchronization is so important in an Operating System and the problems that could arise if synchronization is not handled properly. Identify the main synchronization issues such as Race Conditions ,or system flaws in which the output of a given process is problematically dependent on the sequence of other events **5. Semaphores** Semaphore is a way of preventing Race Conditions and other more advanced alternatives to Semaphores, such as Monitors and Messages. Semaphores are used to solve synchronization problems, but there are some advantages to using them: • Semaphores impose deliberate constraints that help programmers avoid errors. • Solutions using semaphores are often clean and organized, making it easy to demonstrate their correctness. 1. • Semaphores can be implemented efficiently on many systems, so solutions that use semaphores are portable and usually efficient

Learning and Teaching Strategies	
Strategies	The learning and teaching strategies for studying the Operating systems in an IT department comprises a balanced strategy of theoretical understanding and practical application. Lectures, interactive discussions, practical exercises that come from theoretical foundation and seminars. Group work, ring discussion and projects enable hands-on experience with operating systems. Online resources, assessments, and feedback aid in reinforcing learning. Virtual labs and consistent learning that support the practical skills development and staying updated with cutoff trends. These strategies ensure a comprehensive understanding of operating systems and their impact in the IT field.

Student Workload (SWL)			
Structured SWL (h/sem)	65	**Structured SWL (h/w)**	5
Unstructured SWL (h/sem)	85	**Unstructured SWL (h/w)**	6
Total SWL (h/sem)	150		

Module Evaluation

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

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Introduction to Operating Systems: concepts and functionality, Abstract Computer Component Overview
Week 2	History of Operating Systems, Different Operating Systems Overview(UNIX-based, Linux (Ubuntu) Windows, Mobile, Real Time)
Week 3	Types of Operating System Structures :: Batch Operating System, Layered Operating System , Exo- kernel Operating System, and Mico- kernel l Operating System
Week 4	Operating System Services
Week 5	System Calls in Operating System, Interrupts
Week 6	Process Management in OS , Attributes of a Process, Process States, Process Schedulers, Process Queues
Week 7	Process Context Switching
Week 8	Threads :Threads Creation, Threads Attributes, Threads versus Processes,
Week 9	Concurrency: Processes, Threads, and Address Spaces
Week 10	Process Synchronization Problems(Critical Section Problem) : mutual exclusion ,progress , bounded waiting.
Week 11	Solution for Critical section problem: Lock Variable, Paterson Solution, sleep and wake
Week 12	Processes & Threads Creation, intro to race conditions
Week 13	Semaphores: Definition, Syntax, Semaphore type
Week 14	Classical synchronization problems (Mutex, Readers-Writers Problem, Dining-Philosophers Problem)
Week 15	Producer-consumer problem and solution
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab Syllabus)	
	Material Covered
Week 1	Lab 1: Setting up the Linux(Ubuntu) environment
Week 2	Lab 2: Learn interactive system communication terminal, directions, and editors
Week 3	Lab 3: practicing basic system calls, and how to use it.
Week 4	Lab 4: Learn about Operating system code using C and SYSTEM CALL library
Week 5	Lab 5: Learn Files in C using terminal and editor, read and write(word line, and block)
Week 6	Lab 6: Read and identify variables though terminal only using C ode
Week 7	Lab 7: Learn Process library, Process creation, and Process termination using C Code,
Week 8	Lab 8: Implementation of multi processes program with different actions Computing the summation, find maximum, or find minimum
Week 9	Lab 9: Learn basic thread creation , attributes and termination using C code
Week 10	Lab 10: Implementation of single tread program like Computing the Average using One Thread
Week 11	Lab 11: Synchronization in pthreads: concurrency in the thread runtime
Week 12	Lab 12: Learn and implement multi-threading program
Week 13	Lab 13: Learn Race condition problem in of multi- threading runtime
Week 14	Lab 14:Implement Race condition problem in mutual exclusion of multi- threading
Week 15	Lab 15: Apply mutex (mutual locks) to solve Race condition problem in mutual exclusion, build and Implement integrated project for each student

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Operating System Concepts, ABRAHAM SILBERSCHATZ, PETER BAER GALVIN, GREG GAGNE, 9 EDITION, Copyright!© 2013, 2012, 2008 John Wiley& Sons	Yes
Recommended Texts	Operating Systems: Internals and Design Principles, William Stallings , 28 Feb 2011.	no
Websites	https://www.quora.comhttps://www.sanfoundry.com/operating-system-mcqs-application-io-interface-1 https://www.geeksforgeeks.org/operating-systems/ https://www.virtualbox.org https://www.ubuntu.com/download/desktop	

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GRADING SCHEME				
Group	**Grade**	**Mark**	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Fair / Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Pass / Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	Fail (Pending)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(0-44)	Considerable amount of work required
		Note:		

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.

ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي

MODULE DESCRIPTOR FORM

Module Information					
Module Title	INFORMATION TECHNOLOGY GOVERNANCE			**Module Delivery**	
Module Type	ELECTIVE			**Theory** ☒ **Lectre** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar** ☒	
Module Code	IT321				
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level	3		**Semester of Delivery**	5	
Administering Department	Information technology		**College**	College of Sciences	
Module Leader	Maky h. Abdulraheem		**e-mail**	maky.h@uowa.edu.iq	
Module Leader's Acad. Title	Dr		**Module Leader's Qualification**	Ph.D	
Module Tutor	Maky h. Abdulraheem		**e-mail**	maky.h@uowa.edu.iq	
Peer Reviewer name			**e-mail**		
Review Committee Approval	2025-09-1		**Version Number**	1.0	

Relation With Other Modules			
Prerequisite module	IT121	**Semester**	1
Co-requisites module	None	**Semester**	

Department Head Approval **Dean of the College Approval**

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	The aim of Information Technology Governance (IT Governance) is to ensure that an organization's information technology systems and processes support its overall business goals and objectives effectively and efficiently. IT Governance involves establishing processes, policies, and structures to guide the decision-making and management of IT resources within an organization.
Module Learning Outcomes	Understand the concept and principles of IT Governance: Students should develop a clear understanding of what IT Governance entails, its purpose, and its relationship with overall organizational governance. 2- Explain the importance of IT Governance: Students should be able to articulate the significance of effective IT Governance in enabling organizations to achieve their business objectives, manage risks, and ensure regulatory compliance. 3- Identify IT Governance frameworks and standards: Students should become familiar with various IT Governance frameworks, such as COBIT (Control Objectives for Information and Related Technologies), ITIL (Information Technology Infrastructure Library), and ISO/IEC 38500. They should understand the key components and best practices outlined in these frameworks. 4- Analyze the relationship between IT and business strategy: Students should be able to analyze how IT Governance aligns with and supports an organization's business strategy. They should understand the process of translating business goals into IT objectives and initiatives. 5- Evaluate IT performance and measurement: Students should learn how to define relevant metrics and key performance indicators (KPIs) to measure the performance and effectiveness of IT systems and processes. They should be able to analyze performance data and make informed decisions based on the results. 6- Understand compliance and regulatory requirements: Students should comprehend the legal and regulatory landscape related to IT Governance. They should be able to identify and interpret relevant laws, regulations, and industry standards and understand the implications for IT Governance practices. Develop IT Governance frameworks and policies: Students should gain practical skills in designing and implementing IT Governance frameworks and policies. They should be able to create governance structures, establish roles and responsibilities, and define processes for decision-making and resource allocation.
Indicative Contents	1- Introduction to IT Governance a) Definition and significance of IT Governance b) Relationship between IT Governance and organizational governance c) Key principles and objectives of IT Governance 2- IT Governance Frameworks and Standards a) Overview of major IT Governance frameworks (e.g., COBIT, ITIL, ISO/IEC 38500) b) Understanding the components and structure of IT Governance

	frameworks c) Applicability and benefits of adopting IT Governance frameworks d) Comparison of different frameworks and their strengths/weaknesses 3- IT Governance Structures and Processes a) Roles and responsibilities in IT Governance b) Organizational structures for effective IT Governance c) Decision-making processes and mechanisms in IT Governance d) IT Governance policies, procedures, and documentation 4- IT Strategy and Alignment a) Developing an IT strategy aligned with business objectives b) Defining IT goals, objectives, and performance measures c) IT portfolio management and investment decision-making d) Managing IT projects and initiatives for strategic alignment 5- Risk Management in IT Governance a) Identifying and assessing IT risks b) Establishing risk management processes and controls c) Risk mitigation strategies and implementation d) Monitoring and reporting on IT risk management 6- IT Performance Measurement and Reporting a) Key performance indicators (KPIs) for IT Governance b) Measuring and evaluating IT performance c) IT performance reporting and communication d) Continual improvement in IT Governance These indicative contents cover a range of topics related to IT Governance, providing students with a comprehensive understanding of the principles, frameworks, processes, and challenges involved in governing IT resources within organizations. The module may include lectures, case studies, discussions, practical exercises, and assessments to enhance learning and application of IT Governance concepts.

Learning and Teaching Strategies	
Strategies	The learning and teaching strategies for studying Information Technology Governance in the IT department involve: ✔ Lectures. ✔ Interactive discussions. ✔ Online resources, assessments, and feedback aid in reinforcing learning. ✔ Use material like videos that showcase conversation skills. ✔ Create a learning environment that fosters critical thinking. ✔ Promote teamwork through group assignments.

	✔ Promote active listening. ✔ Assessments which include individual assignments, quizzes, and examinations. ✔ Offering feedback. These strategies ensure a comprehensive understanding of communication skills and their relevance in the IT field.

Student Workload (SWL)			
Structured SWL (h/sem)	35	**Structured SWL (h/w)**	3
Unstructured SWL (h/sem)	40	**Unstructured SWL (h/w)**	3
Total SWL (h/sem)	75		

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	10% (10)	3,6,9	
	Assignments	2	10% (10)	4,12	
	H. W	5	10% (10)	2,4,6,8,10	
	Report	1	10% (10)	Continues	
Summative assessment	**Midterm Exam**	2HR	10% (10)	5,11	
	Final Exam	3HR	50% (50)	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Textbooks and Readings: Students may be assigned textbooks and readings that delve deeper into IT Governance. These resources may cover topics such as IT Governance frameworks, risk management, compliance, IT strategy, performance .measurement, and more

Week 2	IT Governance Frameworks: Students may study and analyze different IT Governance frameworks, such as COBIT (Control Objectives for Information and Related Technologies), ITIL (Information Technology Infrastructure Library), ISO/IEC 38500, or NIST (National Institute of Standards and Technology) Cybersecurity Framework. They may learn about the structure, principles, and best practices outlined in these frameworks.
Week 3	IT Governance Frameworks and Standards. ●Overview of major IT Governance frameworks ●Understanding the components and structure of IT Governance frameworks
Week 4	Comparison of different frameworks elements and their strengths/weaknesses.
Week 5	Comparison of different between good governance and bad governance IT Governance.
Week 6	Case Studies: Case studies provide real-world scenarios that allow students to apply IT Governance concepts to practical situations. These case studies may involve analyzing IT governance challenges, identifying risks, developing governance structures, or evaluating the effectiveness of existing IT governance practices.
Week 7	**Mid Term Exam Review**
Week 8	IT Strategy and Alignment Developing an IT strategy aligned with business objectives, Defining IT goals, objectives, and performance measures.
Week 9	Risk Management in IT Governance ●Identifying and assessing IT risks ●Establishing risk management processes and controls ●Risk mitigation strategies and implementation ●Monitoring and reporting on IT risk management
Week 10	IT Performance Measurement and Reporting ●Key performance indicators (KPIs) for IT Governance ●Measuring and evaluating IT performance ●IT performance reporting and communication ●Continual improvement in IT Governance
Week 11	Resource management: IT Governance aims to optimize the allocation and use of IT resources, including people, infrastructure, and budget. It involves defining roles and responsibilities, establishing processes for resource allocation, and monitoring resource utilization.
Week 12	Value Delivery: Value Delivery focuses on maximizing the value derived from IT investments and activities. It involves optimizing the use of IT resources, managing IT investments, ensuring benefits realization, managing vendor relationships, and delivering IT services that meet the needs of the organization.
Week 13	Case Studies: Case studies provide real-world scenarios that allow students to apply IT Governance concepts to practical situations. These case studies may involve analyzing IT governance challenges, identifying risks, developing governance structures, or evaluating the effectiveness of existing IT governance practices.

Week 14	Industry Reports and Whitepapers: Students may have access to industry reports and whitepapers that provide insights into the current trends, best practices, and challenges in IT Governance. These resources can help students understand the practical implications of IT Governance in different industries.
Week 15	Group Discussions and Debates: Students may engage in group discussions and debates to explore different perspectives on IT Governance topics. They may analyze and discuss current issues, controversies, and emerging trends in the field of IT Governance.

Learning and Teaching Resources

	Text	**Available in the Library?**
Required Texts	"IT Governance: An International Guide to Data Security and ISO27001/ISO27002" by Alan Calder and Steve Watkins, and "IT Governance: How Top Performers Manage IT Decision Rights for Superior Results" by Peter Weill and Jeanne Ross.	NO
Recommended Texts	Online Courses and MOOCs: Online learning platforms offer courses specifically focused on IT Governance. Platforms like Coursera, edX, and Udemy host courses taught by experts in the field. These courses often include video lectures, quizzes, assignments, and discussion forums to facilitate learning and interaction.	NO
Websites	There are various websites, blogs, and online resources dedicated to IT Governance. These resources offer articles, case studies, templates, frameworks, and other materials that can supplement classroom learning and provide additional perspectives.	

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GRADING SCHEME				
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	F – Fail	Fail	(0-44)	Considerable amount of work required
Note:				

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 DESCRIPTOR FORM

Module Information				
Module Title	**DBMS ADMINISTRATION**		**Module Delivery**	
Module Type	**ELECTIVE**		☒ Theory ☒ Lecture ☒ Lab ☐ Tutorial ☒ Practical ☐ Seminar	
Module Code	**IT333**			
ECTS Credits	**6**			
SWL (hr/sem)	**150**			
Module Level		**Semester of Delivery**		
Administering Department	Information Technology	**College**	College of Sciences	
Module Leader	**Mahmood Jasim**	**e-mail**	mahmood.jasim@uowa.edu.iq	
Module Leader's Acad. Title	Lec. Dr	**Module Leader's Qualification**	Ph.D	
Module Tutor		**e-mail**		
Peer Reviewer name		**e-mail**		
Review Committee Approval		**Version Number**		

Relation With Other Modules			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	

Department Head Approval **Dean of the College Approval**

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. Provide a solid understanding of database concepts, principles, and best practices. 2. Familiarize students with the design, implementation, and management of databases. 3. Cover topics such as data modelling, normalization, and query optimization. 4. Develop practical skills in using database management systems and query languages. 5. Cultivate critical thinking and problem-solving abilities in the context of database design and administration. 6. Prepare students to apply their knowledge in real-world scenarios. 7. Equip students to contribute to effective database solutions in the IT industry.
Module Learning Outcomes	1. Understand the fundamental concepts and principles of databases, including data models, schemas, and normalization. 2. Demonstrate proficiency in designing, implementing, and managing databases using a database management system (DBMS). 3. Apply data modeling techniques to develop logical and physical database designs that meet specified requirements. 4. Construct and execute complex SQL queries to retrieve, update, and manipulate data stored in a database. 5. Evaluate and optimize query performance through the use of indexing, query tuning, and other optimization techniques. 6. Implement and enforce data integrity constraints, including entity relationships, referential integrity, and data validation rules. 7. Employ appropriate security measures to protect data and ensure database confidentiality, integrity, and availability. 8. Utilize backup and recovery procedures to safeguard data and restore databases in the event of failures or disasters.
Indicative Contents	Indicative content includes the following. 1. Database Design: This includes creating and maintaining the logical and physical structure of databases. It involves defining tables, relationships, constraints, and indexes to ensure efficient data storage and retrieval. 2. Data Modeling: Database administrators (DBAs) are responsible for developing data models that represent the organization's data requirements. This

	involves identifying entities, attributes, and relationships to create a conceptual and logical representation of the data. 3. Performance Tuning: DBAs monitor database performance and optimize it for efficient data access and processing. They analyze query execution plans, identify bottlenecks, and make necessary adjustments to improve performance, such as optimizing queries, configuring indexes, or adjusting database parameters. 4. Backup and Recovery: DBAs implement strategies to ensure data integrity and availability. This includes designing and implementing backup and recovery plans, scheduling regular backups, and performing data restores when necessary. 5. Security Management: DBAs are responsible for safeguarding the database and its contents from unauthorized access, data breaches, or other security threats. They set up user access controls, define security policies, and implement encryption and other security measures to protect sensitive data. 6. Database Maintenance: DBAs perform routine maintenance tasks to ensure the ongoing health and stability of the database system. This includes monitoring database performance, applying software patches and upgrades, managing storage space, and resolving any issues that may arise.

Learning and Teaching Strategies	
Strategies	Learning and teaching strategies for advanced Distributed Database Administration (DDB DBA) involve a combination of theoretical knowledge and practical experience. Instructors can utilize lectures, case studies, discussions, and group activities to explore the complexities of distributed databases, covering topics such as data fragmentation, replication, and concurrency control. Real-world examples and industry best practices should be incorporated to illustrate challenges and solutions. Practical exercises and projects should be emphasized, allowing students to apply their knowledge in designing and implementing distributed database systems. These exercises may include setting up distributed database environments, configuring replication mechanisms, and troubleshooting common issues. By employing a blended approach of theory and hands-on practice, advanced DDB DBA learners can develop the necessary skills and knowledge to effectively manage complex distributed database systems.

Student Workload (SWL)			
Structured SWL (h/sem)	65	**Structured SWL (h/w)**	5
Unstructured SWL (h/sem)	85	**Unstructured SWL (h/w)**	6
Total SWL (h/sem)	150		

Module Evaluation

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	5,10	
	Assignments	2	10% (10)	2.,12	
	Project/Lab	1	10% (10)	Continuous	
	Report	1	10% (10)	13	
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	
	Final Exam	3hr	50% (50)	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Introduction to Distributed Database
Week 2	Examples of DBMS Application Areas
Week 3	Types of DBMS
Week 4	Factors Encouraging DDBMS
Week 5	Advantages of Distributed Databases
Week 6	Distributed Database Vs Centralized Database
Week 7	Homogeneous Distributed Databases
Week 8	Heterogeneous Distributed Databases
Week 9	Client - Server Architecture for DDBMS
Week 10	Peer - to - Peer Architecture for DDBMS
Week 11	Multi - DBMS Architecture
Week 12	Data Fragmentation
Week 13	Data Replication and Allocation
Week 14	QUERIES AND OPTIMIZATION
Week 15	CAP Theorem for Data Engineering
Week 16	Preparatory week before the final Exam

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Setting up the development environment for distributed database projects
Week 2	Implementing data fragmentation strategies in a distributed database
Week 3	Configuring replication and synchronization in a distributed database environment
Week 4	Implementing concurrency control mechanisms in a distributed database system
Week 5	Analyzing and optimizing query plans in a distributed database environment
Week 6	Implementing distributed data storage and indexing strategies
Week 7	Designing and implementing fault-tolerant mechanisms in a distributed database system
Week 8	Configuring security measures and access controls in a distributed database environment
Week 9	Implementing data warehousing and OLAP operations in a distributed database system
Week 10	Exploring Big Data technologies and implementing NoSQL databases in a distributed environment
Week 11	Deploying and scaling distributed databases in a cloud environment
Week 12	Analyzing performance bottlenecks and optimizing distributed database performance
Week 13	Implementing stream processing and real-time analytics in a distributed database system
Week 14	Final project showcase and evaluation
Week 15	Implementation of an integrated database management project for each student

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	1. Distributed database systems vera goebel 2. Distributed database management systems a practical approach	Yes
Recommended Texts	1. Distributed Database Systems 2. Distributed Systems 3. Principles of Distributed Database Systems 4. Distributed Database 5. Management Systems	No
Websites	https://www.tutorialspoint.com/distributed_dbms/distributed_dbms_databases.htm What is a distributed database? | Definition from TechTarget Principles of Distributed Database Systems | SpringerLink	

APPENDIX:

GRADING SCHEME				
Group	**Grade**	**Mark**	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Fair / Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Pass / Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	Fail (Pending)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(0-44)	Considerable amount of work required
Note:				

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.

ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي

MODULE DESCRIPTION FORM

Module Information				
Module Title	**Communication skills**		**Module Delivery**	
Module Type	Elective		☒Lecture	
Module Code	**IT3105**			
ECTS Credits	**2**			
SWL (hr/sem)	**50**			
Module Level	**3**	**Semester of Delivery**	**1**	
Administering Department	Information Technology	**College**	College of Science	
Module Leader	Karar Sadeq Mohsin	**e-mail**	karrar.sadeq@uowa.edu.iq	
Module Leader's Acad. Title	Asist. Lecturer	**Module Leader's Qualification**	MS.c	
Module Tutor	Karar Sadeq Mohsin	**e-mail**	karrar.sadeq@uowa.edu.iq	
Peer Reviewer Name	Dr .Maky H.Abdulraheem	**e-mail**	maky.h@uowa.edu.iq	
Scientific Committee Approval Date	**2025-09-1**	**Version Number**	**1.0**	

Relation with other Modules			
Prerequisite module	None	Semester	None
Co-requisites module	None	Semester	None

Department Head Approval

Dean of the College Approval

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	This course aims to introduce students to communication skills which is the ability to convey information and ideas to another effectively and efficiently. With excellent communication skills, the students will be able to interact with people in different situations like personal interaction, public speaking, or communication in the workplace. Good verbal, nonverbal, and written communication skills will help facilitate the sharing of information between people within a company for its commercial benefit.
Module Learning Outcomes	1. The ability to identify communication skills to be followed in the world of information technology. 2. The ability to analyze problems and identify the required solutions. 3. The ability to research and study the latest findings of the world in the field of communication skills, which is of great importance in our world today and in our private and public societies. 4. Understanding the procedures that support communication skills, trying to apply them, and finding the best solutions for them. 5. The ability to use effective communication skills in the field of information technology and benefit from the positive aspects and avoid the negative things and problems that constitute the most dangerous currents for all humanity.
Indicative Contents	1. Demonstrate knowledge of communication skills. 2. Apply communication skills theories when using a variety of information technology tools. 3. Communication skills enable individuals (students) to understand others and to be understood by using a variety of aspects that are important in the context of these skills, such as listening, speaking, observing, and empathy. 4. Communication skills help the students speak, listen, observe, and empathize with others by using verbal and non-verbal communication in an effective manner. 5. Verbal communication skills include the way you use written or spoken words while non-verbal communication refers to your body language, facial expressions and sorts of nonverbal signals.

Learning and Teaching Strategies	
Strategies	The learning and teaching strategies for studying the communication skills subject in the IT department involve: ✓ Lectures. ✓ Interactive discussions. ✓ Online resources, assessments, and feedback aid in reinforcing learning. ✓ Use material like videos that showcase conversation skills. ✓ Create a learning environment that fosters critical thinking. ✓ Promote teamwork through group assignments. ✓ Promote active listening. ✓ Assessments which include individual assignments, quizzes, and examinations. ✓ Offering feedback. These strategies ensure a comprehensive understanding of communication skills and their relevance in the IT field.

Student Workload (SWL)			
Structured SWL (h/sem)	30	**Structured SWL (h/w)**	2
Unstructured SWL (h/sem)	17	**Unstructured SWL (h/w)**	1.13
Total SWL (h/sem)	47 + 3 final = 50		

Module Evaluation

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

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	- General Introduction to the field of communication skills. - Explain the Communication Skills Definitions and their purpose.
Week 2	- Communication with employers. - Elements of Communication Skills.
Week 3	- Communication skills methods (listening & hearing).
Week 4	- Communication Functions
Week 5	Speaking - Speaking requires - Feature: Oral - Communication
Week 6	- Challenges (face-to-face). - Disadvantages. - Rules of Speaking.
Week 7	- Listening Skills - Discuss how can you improve your listening & communication skills?
Week 8	Reading - Reading Strategies
Week 9	Writing - Interpersonal Communication Skills. - Managers need to perform 3 inter-related roles
Week 10	Establishing Rapport. - Meaning of Establishing Rapport. - How do you go about establishing Rapport?
Week 11	Series of Experiences (formal & Informal).
Week 12	Levels of communication. - Verbal and Non-Verbal (Formal & Informal).
Week 13	Verbal. - Characteristics of effective verbal communication. - Merits. - Demerits.
Week 14	Barriers to effective verbal communication. - Intra verbal: intonation of word and sound. - Aspects of intonation. - Extra verbal: implication of words and phrases, semantics.
Week 15	Non-Verbal. Features: - Importance of non-verbal communication. - Gestures. - Postures. - Movements. - Symbolic. - Disagreement between verbal and nonverbal messages.
Week 16	**Preparatory week before the Final Exam**

Learning and Teaching Resources

	Text	Available in the Library?
Required Texts	The Handbook of Communication Skills, Fourth Edition Edited by Owen Harg, 2019, Fourth edition published 2019 by Routledge 2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN and by Routledge 711 Third Avenue, New York, NY 10017.	
Recommended Texts	J. E. Chatman, A. Johnson, E. White, and R. L. Bell, "The leader as effective communicator," Am. J. Manag., vol. 20, no 2, pp. 22–32, 2020.	

Grading Scheme

Group	Grade	Mark	Marks (%)	Definition
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Fair / Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Pass / Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	Fail (Pending)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(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

Module Information			
Module Title	**Artificial Intelligence**	**Module Delivery**	
Module Type	**Core**	☒**Theory** ☒**Practical** ☒ **Lecture** ☒ **Lab** ☐ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Code	**IT3102**		
ECTS Credits	**5**		
SWL (hr/sem)	**150**		
Module Level	UG3	**Semester of Delivery**	1
Administering Department	Information Technology	**College**	College of Science
Module Leader	**Ali Mahmoud Ali**	**e-mail**	ali.mahmoud@uowa.edu.iq
Module Leader's Acad. Title	Asist. Lecturer	**Module Leader's Qualification**	MS.c
Module Tutor	Ali Mahmoud Ali	**e-mail**	ali.mahmoud@uowa.edu.iq
Peer Reviewer Name	Dr .Maky H.Abdulraheem	**e-mail**	maky.h@uowa.edu.iq
Scientific Committee Approval Date	17-09-2025	**Version Number**	V01

Relation with other Modules			
Prerequisite module		Semester	1
Co-requisites module	None	Semester	None

Department Head Approval

Dean of the College Approval

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	1. Provide students with a solid and comprehensive understanding of the fundamentals, theories, and techniques of Artificial Intelligence (AI). 2. Develop practical skills that enable students to apply AI methodologies to solve real-world problems effectively. 3. Enhance students' programming abilities and strengthen their familiarity with AI-related programming languages. 4. Foster critical thinking and analytical skills in evaluating AI algorithms, methods, and models. 5. Promote teamwork, communication, and collaboration through group-based AI projects. 6. Encourage continuous learning and staying updated with current advancements and emerging trends in the field of AI.
Module Learning Outcomes	Upon successful completion of this module, students will be able to: 1. Identify and describe different types of intelligent agents and their characteristics. 2. Recognize and evaluate the characteristics, strengths, and effectiveness of various AI algorithms. 3. Apply and compare multiple knowledge representation techniques across different scenarios. 4. Formulate real-world problems creatively and translate them into AI-based problem representations.
Indicative Contents	1. Artificial Intelligence and Intelligent Agents: Overview of AI, the Turing Test, types of agents, agent environments, and agent architectures. 2. Problem Solving by Searching: State-space representation, uninformed search strategies, heuristic search, A* algorithm, local search, and search with partial observations. 3. Adversarial Search Algorithms: Optimal decision-making in competitive environments, Alpha-Beta pruning, stochastic games, and partially observable game strategies. 4. Constraint Satisfaction Problems (CSPs): Definitions of CSPs, constraint propagation, arc consistency, and local search for CSPs. 5. Knowledge Representation and Reasoning: Propositional logic, theorem proving, logic-based agents, first-order logic, forward and backward chaining, expert systems, and probabilistic reasoning.

Learning and Teaching Strategies	
Strategies	A variety of teaching and learning activities will be used, including: • **Lectures** to introduce theoretical concepts related to intelligent agents, AI algorithms, knowledge representation, and computational intelligence. • **Laboratory sessions** to practice implementing AI algorithms and developing intelligent software using programming tools. • **Group projects** where students analyze real-world problems and formulate them as AI problems. • **Presentations and discussions** to enhance communication, collaboration, and analytical thinking skills.

Student Workload (SWL)

Structured SWL (h/sem)	65	**Structured SWL (h/w)**	5
Unstructured SWL (h/sem)	85	**Unstructured SWL (h/w)**	**6**
Total SWL (h/sem)	147 + 3 final = 150		

Module Evaluation

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

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	**Introduction to Artificial Intelligence**
Week 2	**Fundamentals of Artificial Intelligence**
Week 3	**Problem Solving by Searching**
Week 4	**Search Algorithms**
Week 5	**Heuristic Search Techniques**
Week 6	**Adversarial Search Algorithms**
Week 7	**Breadth-First Search**
Week 8	**Depth-First Search**
Week 9	**Midterm Examination**
Week 10	**Constraint Satisfaction Problems**
Week 11	**Forward Checking and Constraint Propagation**
Week 12	**Arc Consistency and Constrained Optimization**
Week 13	**Knowledge Representation and Reasoning**
Week 14	**Logic-Based Knowledge Representation**
Week 15	**Reasoning Methods and Inference Engines**
Week 16	**Preparatory Week before the Final Exam**

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Introduction to Python Programming (Data Types) – Tic Tac Toe implementation
Week 2	Implementing examples of AI and various environments
Week 3	Building a simple Agent-Based Model in Python
Week 4	Graph representation and visualization in Python
Week 5	Search Algorithms – Uninformed search
Week 6	Search Algorithms – Informed search
Week 7	Solving the Eight-Puzzle problem in Python
Week 8	Practical Discussion I – Small project
Week 9	Constraint Satisfaction Problems (CSP)
Week 10	Knowledge Representation in Python
Week 11	Map Coloring Problem
Week 12	N-Queen and Sudoku Problems
Week 13	Knowledge Representation using Propositional Logic in Python
Week 14	Knowledge Representation using First-Order Logic in Python
Week 15	Practical Discussion II – Small project

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Russell, Stuart J., and Norvig, Peter. Artificial Intelligence : A Modern Approach. 4th Edition. Prentice Hall Series in Artificial Intelligence. Upper Saddle River, N.J.: Prentice Hall, 2021. 1. Padhy, N. P. (2005). Artificial Intelligence and Intelligent Systems. New Delhi: Oxford University Press. 2. D. L. Poole and A. K. Mackworth, "Artificial Intelligence: Foundations of Computational Agents." Cambridge University Press, 2017. 3. G. F. Luger, "Artificial Intelligence: Structures and Strategies for Complex Problem Solving." Pearson, 2019. 4. M. Negnevitsky, "Artificial Intelligence: A Systems Approach." Pearson, 2019.	Yes
Recommended Texts	1. Padhy, N. P. (2005). Artificial Intelligence and Intelligent Systems. New Delhi: Oxford University Press. 2. D. L. Poole and A. K. Mackworth, "Artificial Intelligence: Foundations of Computational Agents." Cambridge University Press, 2017. 3. G. F. Luger, "Artificial Intelligence: Structures and Strategies for Complex Problem Solving." Pearson, 2019. 4. M. Negnevitsky, "Artificial Intelligence: A Systems Approach." Pearson, 2019. http://www.sqlcourse.com https://www.tutorialspoint.com/human_computer_interface/index.htm https:/www.hci-book.com	

Grading Scheme				
Group	**Grade**	Mark	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Fair / Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Pass / Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	Fail (Pending)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION FORM

Module Information					
Module Title	**English Language II**			**Module Delivery**	
Module Type	**Support**			☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**UOWA 202**				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level		UGII	**Semester of Delivery**		3
Administering Department		Information Technology	**College**	College of Science	
Module Leader	**Fatima Yahya Safi**		**e-mail**	fatimahyahya@uowa.edu.iq	
Module Leader's Acad. Title		Lecturer	**Module Leader's Qualification**		Master of Arts
Module Tutor	**Fatima Yahya Safi**		**e-mail**	fatimahyahya@uowa.edu.iq	
Peer Reviewer Name		Dr. Haider M . Ali	**e-mail**	hayder.alghanami@uowa.edu.iq	
Scientific Committee Approval Date		2025-09-1	**Version Number**		V1

Relation with other Modules			
Prerequisite module	UOWA 105	**Semester**	2
Co-requisites module	Non	**Semester**	…

Department Head Approval **Dean of the College Approval**

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	Providing students with the necessary rules to write a correct English sentence.
Module Learning Outcomes	Providing students with written expression skills so that they can write simple compositions while linking sentences correctly.
Indicative Contents	Developing students' ability to understand what they read in English. present perfect form and use (10 hrs) The preposition (in, at, on)used in spatial expressions (30 hrs) universal pronouns (30 hrs)

Learning and Teaching Strategies	
Strategies	Giving live lectures, using the data show, and having students do the exercises.

Student Workload (SWL)			
Structured SWL (h/sem)	30	**Structured SWL (h/w)**	2
Unstructured SWL (h/sem)	40	**Unstructured SWL (h/w)**	3
Total SWL (h/sem)	70		

Module Evaluation					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	15% (15)	5, 10, and 12	CL: 2,3 and 9,10 and 12
	Assignments	2	10% (10)	2 and 12	CL: 6 and 11
	Seminar	2	10% (10)	6 and 9	CL: 2,3 ,4 and 8
Summative assessment	**Midterm Exam**	2hr	10% (10)	15	CL: 3,4,5,6,10 and 14
	Final Exam	3hr	50% (50)	17	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	present perfect form
Week 2	present perfect uses
Week 3	Adverbs of time used with the present perfect
Week 4	Comparison between the present perfect and past simple
Week 5	Doing the exercises on the present perfect and past simple
Week 6	Mid-term Exam
Week 7	The preposition **in** used in spatial expressions
Week 8	The preposition **at** used in spatial expressions
Week 9	The preposition **on** used in spatial expressions
Week 10	Doing the exercises on using **in, at, on** in spatial expressions
Week 11	universal pronouns
Week 12	Doing the exercises on universal pronouns
Week 13	will vs. going to
Week 14	Doing the exercises on will vs. going to
Week 15	Seminar Discussion
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	New Headway Plus: Preliminary	Yes
Recommended Texts	English Grammar in Use by Raymond Murphy	Yes
Websites	Online English Grammar by Anthony Hughes	

Grading Scheme				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A -** Excellent	Excellent	90 - 100	Outstanding Performance
	B - Very Good	Very Good	80 - 89	Above average with some errors
	C - Good	Good	70 - 79	Sound work with notable errors
	D - Satisfactory	Fair / Average	60 - 69	Fair but with major shortcomings
	E - Sufficient	Pass / Acceptable	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX** – Fail	Fail (Pending)	(45-49)	More work required but credit awarded
	F – Fail	Fail	(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.