
Republic of Iraq
Ministry of Higher Education &
Scientific Research
Alayen Iraqi University AUIQ
Engineering College
Department of Artificial Intelligent
Engineering



جمهورية العراق
وزارة التعليم العالي والبحث العلمي
جامعة العين العراقية
كلية الهندسة
قسم هندسة الذكاء الاصطناعي

Program Catalogue | 2024-2025 | دليل المواد الدراسية

First Cycle – Bachelor's degree (B.Sc.) – Artificial Intelligent Engineering بكالوريوس – هندسة الذكاء الاصطناعي



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1. Overview

This catalogue presents the courses (modules) offered by the Artificial Intelligence Engineering Program leading to the Bachelor of Science degree. The program delivers 60 modules, with a total student workload of 7500 hours and 240 ECTS credits. The module delivery follows the Bologna Process.

نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها برنامج هندسة الذكاء الاصطناعي للحصول على درجة بكالوريوس هندسة . يقدم البرنامج (60) مادة دراسية، مع (7500) ساعة حمل دراسي إجمالية للطالب و (240) وحدة (ECTS) ويعتمد تقديم المواد الدراسية على عملية بولونيا.

2. Undergraduate Courses 2023-2024

Module 1

Code	Course/Module Title	ECTS	Semester
ENG111	Mathematics I	5	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	1	78	72
Description			
Further Techniques in Integration, Integration by Parts, Tabular Integration, Trigonometric Integrations, Integration by Trigonometric Substitutions, Integration by $Z=\tan(x/2)$ Substitutions, Partial Fractions Integration, Improper Integrals, Convergence and Divergence Theorem, Sequences of Numbers, Limit of Sequences, Infinite Series, Definition and Properties, Partial Sums test, Geometric Series, Nth. Term test,			

Alternating Series, Ratio test, Root test, Comparison test, Integral test, Harmonic Series, P-Series, Power Series, Taylor's Theorem, Maclaurin's Series, Intervals of Convergence, Matrices and Determinants, Definition of Matrix, Properties, Special Matrices, Matrix Algebra, Definition of Determinant, Properties, Cofactors and Cominors, Evaluation of determinants, Inverse of Matrix, Applications, Cramer's Rule.

Module 2

Code	Course/Module Title	ECTS	Semester
DSA1113	Introduction to AI	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	63	37
Description			
This module provides a foundational overview of Artificial Intelligence (AI), introducing students to the core concepts, history, and key areas of AI development. It explores fundamental techniques such as problem-solving, search algorithms, knowledge representation, reasoning, and decision-making. Students will gain a broad understanding of topics including intelligent agents, expert systems, machine learning, natural language processing, robotics, and computer vision. The course also highlights real-world AI applications across industries such as healthcare, transportation, finance, and education. Emphasis is placed on ethical considerations, limitations of AI, and the impact of intelligent systems on society. Through practical examples and case studies, students will develop an appreciation for how AI technologies are designed and implemented. This module lays the groundwork for advanced AI studies and prepares students to think critically about the challenges and opportunities presented by intelligent systems.			

Module 3

Code	Course/Module Title	ECTS	Semester
DSA1111	Computer skills	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	63	37
Description			
This module equips students with essential computer literacy and practical skills necessary for academic and professional success in engineering and technology fields. It introduces the fundamentals of computer hardware and software, operating systems (Windows and Linux), file management, and internet navigation. Students will gain hands-on experience with productivity tools such as word processors, spreadsheets, and presentation software. The module also covers the basics of programming, introducing logical thinking and problem-solving through beginner-friendly languages such as Python or Scratch. Additionally, students			

will explore safe and responsible use of technology, including data security, digital communication, and basic troubleshooting techniques. Emphasis is placed on developing the ability to use digital tools efficiently in academic tasks, technical documentation, and collaborative projects. By the end of the course, students will possess a strong foundation in computer usage that supports further study in more advanced computing and engineering modules.

Module 4

Code	Course/Module Title	ECTS	Semester
ENG112	Engineering Drawing	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	63	37
Description			
This module introduces the fundamental principles of engineering drawing as a universal language of engineers and designers. It covers the basics of technical drawing, including geometric constructions, orthographic projections, isometric views, section views, and dimensioning techniques. Students will learn to interpret and create accurate two-dimensional (2D) and three-dimensional (3D) drawings using both traditional drawing tools and modern computer-aided design (CAD) software. Emphasis is placed on developing spatial visualization skills, attention to detail, and adherence to engineering drawing standards (such as ISO and ANSI). The course also includes practice in reading and producing mechanical components, assembly drawings, and schematic diagrams. Through hands-on exercises and projects, students will gain the ability to communicate technical ideas clearly and effectively. This module serves as a critical foundation for courses in design, manufacturing, and mechanical systems within engineering disciplines.			

Module 5

Code	Course/Module Title	ECTS	Semester
ENG112	Computer Programming I	6	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	93	82
Description			
This introductory module provides students with the foundational skills in computer programming, focusing on problem-solving and algorithmic thinking. It covers the basic concepts of programming languages, including variables, data types, operators, control structures (such as conditionals and loops), functions, and arrays. Using a high-level			

programming language such as Python or C++, students will learn how to write, test, and debug simple programs. Emphasis is placed on structured programming, logical flow, and code readability. The module also introduces students to the basics of input/output handling, error handling, and documentation. Through hands-on lab sessions and practical assignments, students will develop the ability to create programs that solve real-world problems. This course serves as a foundation for more advanced programming and software development modules and is essential for students pursuing studies in engineering, artificial intelligence, and computer science.

Module 6

Code	Course/Module Title	ECTS	Semester
ENG113	Electrical Circuits	4	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3/1	94	31
Description			
This module introduces students to the fundamental concepts and analysis techniques of electrical circuits. It covers essential topics such as voltage, current, resistance, power, energy, and the application of Ohm's Law and Kirchhoff's Laws in circuit analysis. Students will learn to analyze series, parallel, and combination resistor networks, as well as capacitive and inductive circuits under both direct current (DC) and alternating current (AC) conditions. The module also introduces the use of basic circuit theorems (Thevenin's and Norton's), transient analysis, and the behavior of RL, RC, and RLC circuits. Practical lab sessions complement the theoretical knowledge, allowing students to build and test circuits using electronic components and measurement instruments such as multimeters and oscilloscopes. This module lays a critical foundation for understanding more advanced topics in electronics and electrical engineering, essential for students in AI, robotics, and engineering-related disciplines.			

Module 7

Code	Course/Module Title	ECTS	Semester
UAID001	Democracy and Human Rights	2	1
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4		33	17
Description			
This module provides students with a foundational understanding of democratic systems and			

the principles of human rights. It explores the historical development, core values, and functioning of democracy, including the rule of law, political participation, separation of powers, and free elections. The module also examines the concept of human rights, their origins, classifications (civil, political, economic, social, and cultural rights), and international frameworks such as the Universal Declaration of Human Rights. Students will analyze the role of institutions, civil society, and global organizations in promoting and protecting human rights. Through discussions, case studies, and reflective activities, learners will gain awareness of issues like freedom of expression, gender equality, minority rights, and the challenges to democracy in modern societies. This course aims to foster critical thinking, civic responsibility, and a deep appreciation for the values of justice, equality, and human dignity.

Module 8

Code	Course/Module Title	ECTS	Semester
ENG110	Computer Programming II	6	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	93	82
Description			
This module builds upon the foundations established in Computer Programming I, introducing more advanced programming concepts and methodologies. Students will explore object-oriented programming (OOP) principles such as classes, objects, inheritance, polymorphism, and encapsulation. The course also covers data structures including lists, stacks, queues, and basic file handling techniques. Emphasis is placed on writing modular, reusable, and efficient code using languages such as Python, Java, or C++. Students will develop and implement algorithms for solving complex problems and gain experience with debugging and testing strategies. The module includes hands-on programming assignments and projects to reinforce theoretical knowledge and enhance practical skills. By the end of the course, students will be able to design and develop intermediate-level applications with structured and object-oriented approaches, preparing them for more specialized topics in software development, artificial intelligence, and systems programming.			

Module 9

Code	Course/Module Title	ECTS	Semester
DSA1113	Digital Technologies	7	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	93	82

Description
This module introduces students to the essential concepts and components of modern digital technologies that form the backbone of computing and communication systems. It covers fundamental topics such as number systems (binary, octal, hexadecimal), logic gates, Boolean algebra, combinational and sequential logic circuits, flip-flops, multiplexers, decoders, and counters. Students will also gain insight into digital system design, memory units, microprocessors, and basic data representation techniques. Emphasis is placed on understanding how digital systems process, store, and transmit information in electronic devices. Through lab sessions and simulations, students will gain practical skills in analyzing and designing basic digital circuits using tools like logic simulators or digital trainer kits. This module lays the foundation for more advanced subjects in embedded systems, computer architecture, and intelligent systems, making it essential for students in artificial intelligence, robotics, and computer engineering programs.

Module 10

Code	Course/Module Title	ECTS	Semester
DSA1111	Electronic Circuits	6	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3/1	78	72
Description			
This module provides students with a comprehensive understanding of the principles and operation of electronic components and circuits. It covers the behavior and applications of semiconductor devices such as diodes, bipolar junction transistors (BJTs), and field-effect transistors (FETs). Students will learn about biasing techniques, small-signal analysis, and the design of amplifiers, oscillators, and switching circuits. The module also explores the use of operational amplifiers (Op-Amps) in analog signal processing, including filtering, signal amplification, and waveform generation. Emphasis is placed on circuit analysis, design, and practical implementation through lab-based exercises and simulation tools. By the end of the course, students will be able to analyze and design basic to intermediate-level electronic circuits, understand their applications in real-world systems, and use electronic instruments for testing and troubleshooting. This module is essential for students in AI, robotics, and embedded systems, as it builds the groundwork for intelligent hardware design and integration.			

Module 11

Code	Course/Module Title	ECTS	Semester
ENG111	Physics	7	2

Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	93	82
Description			
This module introduces students to the fundamental principles of physics, providing a solid foundation for understanding the natural laws that govern the behavior of matter and energy. Topics include mechanics (motion, forces, energy, and momentum), thermodynamics, waves, sound, and basic electricity and magnetism. The course emphasizes the application of mathematical methods to solve physical problems and helps students develop analytical and critical thinking skills. Laboratory sessions accompany theoretical instruction, allowing students to conduct experiments, gather and analyze data, and draw meaningful conclusions. By understanding physical laws and phenomena, students will gain insight into the principles that underlie engineering systems, technological devices, and modern innovations. This module is particularly important for students in artificial intelligence and engineering programs, as it builds the scientific foundation required for advanced study in robotics, electronics, and system modeling.			

Module 12

Code	Course/Module Title	ECTS	Semester
ENG113	English Language	2	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2		33	17
Description			
This module is designed to enhance students' proficiency in the English language, focusing on the four key skills: listening, speaking, reading, and writing. It aims to improve students' ability to communicate effectively in academic and professional settings. The course includes grammar and vocabulary development, reading comprehension, paragraph and essay writing, and oral communication through discussions and presentations. Emphasis is also placed on improving pronunciation, listening to academic lectures, and developing the ability to analyze and interpret written texts. Through interactive activities, assignments, and language labs, students will build confidence and fluency in English. This module is essential for students in engineering and technology programs, as it prepares them to engage with English-language academic content, participate in international research, and collaborate in global professional environments.			

Module 13

Code	Course/Module Title	ECTS	Semester
UoB12379	Mathematics II	4	2

Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4		63	57
Description			
This module is a continuation of Mathematics I and focuses on advanced calculus and analytical methods essential for engineering and computer science. Topics covered include techniques of integration (such as integration by parts, trigonometric substitutions, and partial fractions), improper integrals, and convergence tests for series and sequences. Students will also study infinite series, including Taylor and Maclaurin series, power series, and their intervals of convergence. Additional topics include the theory and application of matrices and determinants, systems of linear equations, Cramer's rule, and the inverse of a matrix. Emphasis is placed on problem-solving and the application of mathematical tools to real-world scenarios. The course equips students with a strong mathematical foundation necessary for advanced modules in artificial intelligence, machine learning, control systems, and data analysis. Through lectures, tutorials, and practical exercises, students will enhance their analytical thinking and quantitative reasoning skills.			

Module14

Code	Course/Module Title	ECTS	Semester
UAID001	Arabic Language	2	2
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4		33	17
Description			
This module aims to strengthen students' proficiency in Modern Standard Arabic, focusing on both linguistic and communicative skills. It covers key aspects of Arabic grammar, syntax, vocabulary development, and sentence structure, with an emphasis on accurate usage in academic and professional contexts. Students will engage in reading comprehension exercises using literary and informational texts, as well as practice writing coherent and grammatically correct essays and reports. The module also enhances oral and listening skills through structured dialogues, presentations, and discussions. By the end of the course, students will be able to express themselves clearly and effectively in Arabic, both in writing and speech. This module is essential for developing strong communication skills, preserving cultural and linguistic identity, and preparing students for professional environments where Arabic is the primary language of communication.			

Module 15

Code	Course/Module Title	ECTS	Semester
UAID001	Mechanics & Robotics I	6	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	93	57

Description
This module introduces students to the fundamental concepts of mechanics and the basics of robotics, laying the groundwork for intelligent machine design and control. It covers classical mechanics topics such as force, motion, torque, equilibrium, kinematics, and dynamics of rigid bodies, which are essential for understanding the physical behavior of robotic systems. In the robotics portion, students will explore the structure of robotic systems, types of robots, basic actuation and sensing mechanisms, and introductory concepts in robot control and programming. The course emphasizes practical applications through problem-solving, simulations, and hands-on laboratory sessions using robotic kits or simulators. By the end of the module, students will understand the mechanical principles that influence robot design and functionality and will gain initial experience in building and controlling simple robotic systems. This module serves as a foundation for more advanced studies in automation, intelligent systems, and mechatronics.

Module 16

Code	Course/Module Title	ECTS	Semester
AI0014	Computer networks	6	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	72	57
Description			
This module provides students with a comprehensive understanding of computer networking concepts, architecture, and protocols. It covers key topics such as network topologies, the OSI and TCP/IP models, data transmission methods, IP addressing, subnetting, routing, switching, and network security fundamentals. Students will learn how data is transmitted and managed across local and wide-area networks (LANs and WANs), as well as the roles of different hardware components like routers, switches, and firewalls. Emphasis is placed on both theoretical foundations and practical skills, including network configuration, troubleshooting, and simulation using modern tools. By the end of the course, students will be able to analyze network performance, design basic network architectures, and implement secure communication systems. This module is essential for students in artificial intelligence, cybersecurity, and software engineering, as it forms the basis for understanding how intelligent systems communicate in distributed and connected environments.			

Module 17

Code	Course/Module Title	ECTS	Semester
ENG1244	Digital technologies	4	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	78	22

Description
This module introduces students to the fundamental concepts and components of digital systems and technologies that underpin modern computing and intelligent systems. Topics include number systems (binary, decimal, hexadecimal), logic gates, Boolean algebra, combinational and sequential circuits, flip-flops, counters, and memory units. Students will also explore how digital data is represented, processed, and stored within computer systems. Practical sessions and simulations allow students to design and analyze digital circuits using software tools and digital kits. The module emphasizes the connection between hardware logic and real-world applications such as microcontrollers and embedded systems, which are critical in AI, robotics, and IoT devices. By the end of the course, students will have a solid understanding of how digital electronics function and interact with software, preparing them for advanced modules in computer architecture, automation, and intelligent system design.

Code	Course/Module Title	ECTS	Semester
ENG1244	Digital technologies	4	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	78	22
Description			
The Electronic Circuit module provides a comprehensive introduction to the fundamental principles and components of electronic circuits. Students will learn about key concepts such as voltage, current, resistance, and power, as well as essential components like resistors, capacitors, inductors, diodes, and transistors. The module covers both analog and digital circuits, including amplifiers, oscillators, logic gates, and microcontrollers. Practical hands-on exercises and simulations help reinforce theoretical knowledge, enabling students to design, analyze, and troubleshoot basic circuits. By the end of the module, learners will have a solid foundation in circuit theory, enabling them to progress to more advanced topics in electronics and embedded systems. Ideal for engineering students and hobbyists, this module combines theory with real-world applications.			

Module 18

Code	Course/Module Title	ECTS	Semester
UAID004	Mathematics II	4	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4		78	22
Description			
The Mathematics II module builds on foundational mathematical concepts, covering advanced topics essential for engineering and science disciplines. Students will explore integral and differential calculus, multivariable functions, partial derivatives, and multiple integrals, with applications in			

optimization and physics. The module also introduces linear algebra, including matrices, determinants, vector spaces, and eigenvalues. Differential equations—both ordinary (ODEs) and partial (PDEs)—are examined, along with analytical and numerical solution techniques. Emphasis is placed on problem-solving skills, logical reasoning, and applying mathematical models to real-world scenarios. Through exercises and computational tools, learners develop proficiency in mathematical analysis, preparing them for higher-level studies in engineering, physics, and computer science. This module is ideal for students seeking a strong analytical foundation for technical fields.

Code	Course/Module Title	ECTS	Semester
UAID005	Data Algorithms and Structures 1	4	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	93	54
Description			
The Data Algorithms and Structures 1 module introduces fundamental concepts for organizing, storing, and processing data efficiently. Students will learn essential data structures such as arrays, linked lists, stacks, queues, trees, and hash tables, along with their applications. The module covers key algorithms for searching, sorting, and recursion, analyzing their time and space complexity using Big-O notation. Practical implementation in a high-level programming language (e.g., Python, Java, or C++) reinforces theoretical understanding. Problem-solving techniques and optimization strategies are emphasized to enhance computational thinking. By the end of the module, students will be able to select appropriate data structures and algorithms for real-world problems, laying the groundwork for advanced studies in software development and computer science.			

Module 19

Code	Course/Module Title	ECTS	Semester
UAID001	English language	2	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2		33	17
Description			
This module is designed to enhance students' proficiency in reading, writing, listening, and speaking. It covers essential grammar rules, vocabulary expansion, and effective communication strategies for academic and professional contexts. Students will practice essay writing, report drafting, and presentation skills while developing critical thinking through textual analysis. The module also emphasizes pronunciation, conversational fluency, and comprehension of diverse English accents. Interactive activities, group discussions, and multimedia resources help reinforce learning. By the end of the course, students will be able to express ideas clearly, construct well-structured arguments, and engage confidently in English-speaking environments. Ideal for non-native speakers and those seeking			

to refine their language skills for higher education or global workplace demands.

Code	Course/Module Title	ECTS	Semester
UAID001	Mechanics & Robotics II	6	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	3	93	57
Description			
The Mechanics & Robotics II module builds upon foundational principles to explore advanced topics in mechanical systems and robotic automation. Students will study kinematics and dynamics of robotic manipulators, including forward and inverse kinematics, Jacobian matrices, and trajectory planning. The module covers control systems such as PID, state-space modeling, and feedback mechanisms for precision robotics. Practical applications include sensor integration (vision, force, LiDAR), actuator selection, and embedded programming for autonomous robots. Hands-on projects involve designing and simulating robotic systems using tools like ROS (Robot Operating System) or MATLAB. By the end of the module, students will be able to model, analyze, and implement complex robotic solutions for industrial and research applications, preparing them for careers in automation, AI, and advanced manufacturing.			

Module 20

Code	Course/Module Title	ECTS	Semester
UAID002	Linear Algebra	5	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4		93	32
Description			
The Mechanics & Robotics II module builds upon foundational principles to explore advanced topics in mechanical systems and robotic automation. Students will study kinematics and dynamics of robotic manipulators, including forward and inverse kinematics, Jacobian matrices, and trajectory planning. The module covers control systems such as PID, state-space modeling, and feedback mechanisms for precision robotics. Practical applications include sensor integration (vision, force, LiDAR), actuator selection, and embedded programming for autonomous robots. Hands-on projects involve designing and simulating robotic systems using tools like ROS (Robot Operating System) or MATLAB. By the end of the module, students will be able to model, analyze, and implement complex robotic solutions for industrial and research applications, preparing them for careers in automation, AI, and advanced manufacturing.			

Module 21

Code	Course/Module Title	ECTS	Semester
UAID003	Measurements & Instruments	5	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	78	57
Description			
This module introduces the fundamental principles and techniques of measurement systems used in engineering and scientific applications. Students will explore sensor technologies, signal conditioning, data acquisition, and error analysis, with an emphasis on accuracy, precision, and calibration. Key topics include analog and digital instrumentation, transducers (temperature, pressure, strain, etc.), and measurement standards. The module also covers modern tools such as oscilloscopes, spectrum analyzers, and LabVIEW for real-time data processing. Practical lab sessions reinforce theoretical concepts, enabling students to design and evaluate measurement systems for industrial and research applications. By the end, students will be proficient in selecting appropriate instruments, analyzing measurement uncertainties, and applying best practices in experimental setups.			

Module 22

Code	Course/Module Title	ECTS	Semester
UAID005	Data Algorithms and Structures 1	6	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	93	57
Description			
This module introduces the foundational concepts of data organization and computational problem-solving, essential for efficient software development. Students will study core data structures—including arrays, linked lists, stacks, queues, trees (binary, BSTs), and hash tables—along with their implementation and use cases. The module covers fundamental algorithms for searching (binary, hashing), sorting (quicksort, mergesort), and recursion, with analysis of time/space complexity using Big-O notation. Practical coding exercises in languages like Python, Java, or C++ reinforce theoretical learning, while problem-solving sessions emphasize optimizing trade-offs between memory and speed. By the end, students will be able to select, implement, and evaluate appropriate data structures and algorithms for real-world applications, preparing them for advanced topics in software engineering and system design.			

Module 23

Code	Course/Module Title	ECTS	Semester
UAID006	DATA BASE	4	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
4	2	78	72
Description			
This module provides a comprehensive introduction to the design, implementation, and management of database systems, a critical component of modern software applications. Students will learn fundamental concepts including data modeling (ER diagrams, relational models), SQL programming (queries, joins, transactions), and database normalization (1NF to BCNF). The module covers both relational (MySQL, PostgreSQL) and NoSQL (MongoDB, Redis) systems, comparing their use cases in scalability and performance. Additional topics include index structures, concurrency control, and basic database administration. Hands-on projects involve designing schemas, optimizing queries, and building small applications with backend databases. By the end, students will be proficient in structuring efficient, secure databases and understanding their role in full-stack systems.			

Module 24

Code	Course/Module Title	ECTS	Semester
UAID004	Crimes of Defunct Baath Party	2	4
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/w)
2		33	17
Description			
This module examines the historical and legal dimensions of the crimes committed by Iraq's Ba'ath Party under Saddam Hussein's regime (1968–2003). Students will analyze documented violations of international law, including wars of aggression (Iran-Iraq War, Kuwait invasion), genocide (Anfal Campaign against Kurds), mass executions, torture, and suppression of political dissent. The course explores evidence from tribunals like the Iraqi High Tribunal, testimonies from survivors, and declassified documents. Comparative case studies (e.g., Nuremberg Trials) contextualize accountability mechanisms. Ethical debates cover transitional justice, victim reparations, and the challenges of post-authoritarian reconciliation. By the end, students will critically assess the balance between justice and political pragmatism in addressing regime crimes.			

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