University of AlShaab

جامعة الشعب

First Cycle – Bachelor of Science Degree (B.Sc.) in Civil Engineering

بكالوريوس علوم في الهندسة المدنية

Table of Contents

1. Overview

This catalogue is about the courses (modules) given by the program of Civil Engineering to gain the Bachelor of Science degree. The program delivers (55) Modules with (6000) total student workload hours and 240 total ECTS. The module delivery is based on the Bologna Process.

نظرة عامة

يتناول هذا الدليل المواد الدراسية التي يقدمها البرنامج للحصول على درجة بكالوريوس علوم في الهندسة المدنية. يقدم البرنامج (٥٥) مادة دراسية مع (٦٠٠٠) إجمالي ساعات حمل للطالب و(٢٤٠) اجمالي وحدات أوروبية. يعتمد تقديم المواد الدراسية على عملية بولونيا.

2. Undergraduate Courses 2023-2024

UG I – Semester 1

Module 1

Code	Module Title	ECTS	Semester
UREQ101	**Democracy and Human Rights**	**2**	**1**
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	**0**	**33**	**17**
Description			
The course on Human Rights and Democracy focuses on the study of fundamental human rights and the principles and practices of democracy. It examines the historical, philosophical, legal, and social aspects of human rights and their relationship to democratic governance.			

Module 2

Code	Module Title	ECTS	Semester
UREQ102	Arabic Language	2	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	0	33	17
Description			
The Arabic course in civil engineering is a course designed to improve students' Arabic language proficiency, with a focus on developing the language skills necessary for effective communication in the field of civil engineering. The course covers various modules that target different language components and communication skills.			

Module 3

Code	Module Title	ECTS	Semester
CIVE110	Mathematics I	5	1
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
4	0	63	62
Description			
The Mathematics I course is designed to provide students with a strong foundation in mathematical concepts and techniques that are relevant to their field of study. This course focuses on various modules that cover essential mathematical topics used in civil engineering. Here are some common modules covered in a Mathematics I course for civil engineering: Algebra and Equations, calculus, analytical Geometry, vectors.. etc			

Module 4

Code	Module Title	ECTS	Semester
CIVE111	Engineering Mechanics I	5	1
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Engineering Mechanics I is a foundational course in civil engineering that focuses on the principles of statics and dynamics. It provides students with a fundamental understanding of the behavior of structures and the analysis of forces and motion. Here are some common modules covered in an Engineering Mechanics I course for civil engineering: Introduction to Engineering Mechanics, Forces and Moments, Free-Body Diagrams, Analysis of Structures, .. etc.			

Module 5

Code	Module Title	ECTS	Semester
CIVE112	Engineering Drawing	5	1
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	3	78	47
Description			
The Engineering Drawing course is essential for students to develop the skills and knowledge required to read, interpret, and create engineering drawings. Engineering drawings serve as a means of communication and documentation in the field, providing precise and detailed information about design, construction, and dimensions of civil engineering projects. Here are some common modules covered in an Engineering Drawings course for civil engineering: Introduction to Engineering Drawings, Drawing Instruments and Techniques, Orthographic Projection, Geometric Construction, .. etc.			

Module 6

Code	Module Title	ECTS	Semester
CIVE113	Physics	5	1
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	62
Description			
Physics plays a crucial role in civil engineering, providing a foundation for understanding the physical principles and phenomena that govern the behavior of structures, materials, and forces. In a Physics course for civil engineering, several modules are typically covered to equip students with the necessary knowledge and skills.			

Module 7

Code	Module Title	ECTS	Semester
CIVE114	Computer Fundamentals and Programming I	3	1
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	12
Description			
Computer Fundamentals and Programming I is a module that provides students with a foundation in computer science and programming concepts. It aims to equip civil engineering students with the necessary skills to utilize computer programming languages and tools in their field.			

Module 8

Code	Module Title	ECTS	Semester
CIVE115	Workshop Technology	3	1
Class (hr/w)	**Practical (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
0	3	48	27
Description			
Workshop Technology is a module that covers various training courses related to the practical aspects of manufacturing processes and technical workshop operations. These courses provide students with the necessary knowledge and skills to understand and work with different tools, machines, and techniques commonly used in workshops and manufacturing industries.			

UG I – Semester 2

Module 1

Code	Module Title	ECTS	Semester
UREQ100	English Language I	2	2
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	0	33	17
Description			
English Language I in civil engineering is a course designed to improve students' English language proficiency, with a focus on developing the language skills necessary for effective communication in the field of civil engineering. The course covers various modules that target different language components and communication skills.			

Module 2

Code	Module Title	ECTS	Semester
CIVE120	Mathematics II	5	2
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Mathematics II builds upon the foundational mathematical concepts covered in Mathematics I, further exploring mathematical techniques and applications relevant to the field. This course focuses on advanced mathematical topics that are essential for solving engineering problems encountered in civil engineering. Here are some common modules covered in a Mathematics II course for civil engineering: Differential Equations, Linear Algebra, Numerical Methods, ..etc.			

Module 3

Code	Module Title	ECTS	Semester
CIVE121	Engineering Mechanics II	5	2
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
The student acquires knowledge and special skills to analyze simple geometric shapes and structures and find results using theories, hypotheses and laws related to dynamics. The student acquires special knowledge and skills to find the forces of friction and the most important relevant laws. The student acquires special knowledge and skills to find centers of gravity, centers of areas, and the most important relevant laws. Acquisition of the student's knowledge and special skills to find the moment of inertia and the most important relevant laws.			

Module 4

Code	Module Title	ECTS	Semester
CIVE122	Computer-Aided Drawing	5	2
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	62
Description			
Computer-Aided Drawing II in civil engineering builds upon the foundational knowledge and skills acquired in Computer-Aided Drawing I, further enhancing students' proficiency in using computer-aided design (CAD) software for civil engineering applications. The course focuses on advanced techniques and applications of CAD in civil engineering projects.			

Module 5

Code	Module Title	ECTS	Semester
CIVE123	Material Technology	5	2
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	62
Description			
Material Technology in civil engineering is a course that focuses on the properties, behavior, and applications of construction materials used in the field. The course aims to provide students with a comprehensive understanding of various materials and their performance in civil engineering projects.			

Module 6

Code	Module Title	ECTS	Semester
CIVE124	Geology	5	2
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	62
Description			
Geology plays a crucial role in civil engineering, providing valuable insights into the behavior of Earth materials and the geological processes that shape the Earth's surface. A Geology course for civil engineering aims to familiarize students with the geological principles and their application in various civil engineering projects. Here are some common modules covered in a Geology course for civil engineering: Introduction to Geology, Geological Maps and Cross-Sections, Rock and Soil Mechanics, ..etc.			

Module 7

Code	Module Title	ECTS	Semester
CIVE125	Chemistry	4	2
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	37
Description			
In analytical chemistry, students will be introduced to various analysis techniques, including They will learn how to express concentrations and contents, use standard solutions, determine reactant and product amounts, and understand chemical equilibrium. The module also covers the relationship between chemical kinetics and equilibrium, electrochemistry, gravimetric and volumetric analysis, titrations (acid-base, precipitation, complexometric, and redox), and their calculations. This comprehensive module provides a foundation analytical chemistry, equipping students with knowledge and skills to understand and analyze chemical systems.			

UG II – Semester 3

Module 1

Code	Module Title	ECTS	Semester
UREQ201	Crimes of the Defunct Baath Party	2	3
Class (hr/w)	Lect/Lab./Prac./Tutor	SSWL (hr/sem)	USWL (hr/sem)
2	0	33	17
Description			
The course displays the crimes committed by the defunct Baath Party when ruling Iraq.			

Module 2

Code	Module Title	ECTS	Semester
CIVE210	Mathematics III	5	3
Class (hr/w)	Tutorial (hr/w)	SSWL (hr/sem)	USWL (hr/sem)
3	1	63	62
Description			
Mathematics III in civil engineering is an advanced course that builds upon the mathematical concepts covered in Mathematics I and Mathematics II. The course focuses on advanced mathematical topics that are essential for solving complex engineering problems encountered in civil engineering. Here are some common modules covered in a Mathematics III course for civil engineering: Differential Equations and Partial Differential Equations, Complex Analysis, Vector Calculus, ..etc.			

Module 3

Code	Module Title	ECTS	Semester
CIVE211	Mechanics of Materials I	5	3
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Mechanics of Materials I in civil engineering is a course that focuses on the behavior and analysis of structural materials under various loading conditions. The course introduces students to the principles and theories of mechanics of materials, providing a foundation for analyzing the strength and deformation of structural components.			

Module 4

Code	Module Title	ECTS	Semester
CIVE212	Fluid Mechanics I	5	3
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	62
Description			
Fluid Mechanics I in civil engineering is a course that focuses on the study of fluid behavior and its application in civil engineering projects. The course introduces students to the principles and theories of fluid mechanics, providing a foundation for analyzing fluid flow in various civil engineering systems.			

Module 5

Code	Module Title	ECTS	Semester
CIVE213	Concrete Technology	5	3
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	2	78	47
Description			
Concrete Technology is a specialized course in civil engineering that focuses on the study of concrete, its properties, production, and applications in construction. The course covers the fundamental principles and advanced concepts related to the design, manufacturing, and testing of concrete.			

Module 6

Code	Module Title	ECTS	Semester
CIVE214	Computer Fundamentals and Programming II	3	3
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	12
Description			
Computer Fundamentals and Programming II in civil engineering is a course that builds upon the foundational concepts covered in Computer Fundamentals and Programming I. This course focuses on further developing students' understanding of computer systems, programming languages, and their applications in the field of civil engineering.			

Module 7

Code	Module Title	ECTS	Semester
CIVE215	Geomatics I	5	3
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	62
Description			
Geomatics I in civil engineering is a course that focuses on the principles and applications of geospatial data collection, analysis, and management in civil engineering projects. The course covers various surveying techniques and technologies used to acquire and process spatial data for engineering applications.			

UG II – Semester 4

Module 1

Code	Module Title	ECTS	Semester
UREQ200	English Language II	2	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	0	33	17
Description			
English Language II in civil engineering is a course designed to improve students' English language proficiency, with a focus on developing the language skills necessary for effective communication in the field of civil engineering. The course covers various modules that target different language components and communication skills.			

Module 2

Code	Module Title	ECTS	Semester
CIVE220	Mathematics IV	5	4
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Mathematics IV in civil engineering is an advanced course that builds upon the mathematical concepts covered in Mathematics I, II, and III. The course focuses on mathematical techniques and theories relevant to civil engineering applications, with an emphasis on solving complex engineering problems. Here are some common modules covered in a Mathematics IV course for civil engineering: Numerical Methods, Probability and Statistics in Civil Engineering, Advanced Engineering Mathematics, ..etc.			

Module 3

Code	Module Title	ECTS	Semester
CIVE221	Mechanics of Materials II	5	4
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Mechanics of Materials II in civil engineering is an advanced course that builds upon the concepts covered in Mechanics of Materials I. The course focuses on advanced topics related to the behavior and analysis of structural materials under different loading conditions. It provides students with an in-depth understanding of the mechanics of materials and their applications in civil engineering.			

Module 4

Code	Module Title	ECTS	Semester
CIVE222	Fluid Mechanics II	4	4
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	2	78	22
Description			
Fluid Mechanics II in civil engineering is an advanced course that builds upon the concepts covered in Fluid Mechanics I. The course focuses on more complex topics and applications of fluid mechanics in civil engineering projects. It provides students with a deeper understanding of fluid flow behavior, analysis, and design considerations. Here are some common modules covered in a Fluid Mechanics II course for civil engineering: Fluid Flow in Pipes, Open Channel Flow, Hydraulic Structures, ...etc.			

Module 5

Code	Module Title	ECTS	Semester
CIVE223	Building Construction	5	4
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	2	78	47
Description			
Building Construction is a specialized course in civil engineering that focuses on the principles, techniques, and processes involved in the construction of buildings. The course covers various aspects of building construction, including materials, methods, and management. Here are some common modules covered in a Building Construction course for civil engineering: Construction Materials, Construction Methods and Techniques, Building Structures, ..etc.			

Module 6

Code	Module Title	ECTS	Semester
CIVE224	Engineering Statistics	5	4
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	0	48	77
Description			
Engineering Statistics in civil engineering is a course that focuses on the principles and applications of statistical analysis in engineering. The course aims to provide students with the knowledge and skills to collect, analyze, and interpret data relevant to civil engineering projects. Here are some common modules covered in an Engineering Statistics course for civil engineering: Descriptive Statistics, Probability Theory, Statistical Inference, ..etc.			

Module 7

Code	Module Title	ECTS	Semester
CIVE225	Geomatics II	4	4
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	37
Description			
Geomatics II in civil engineering is an advanced course that builds upon the principles and concepts covered in Geomatics I. The course focuses on advanced geospatial data collection, analysis, and management techniques used in civil engineering projects. It provides students with a deeper understanding of surveying, mapping, and geospatial data analysis.			

UG III – Semester 5

Module 1

Code	Module Title	ECTS	Semester
CIVE310	Engineering and Numerical Analysis	6	5
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
5	1	93	57
Description			
Engineering and Numerical Analysis in civil engineering is a course that focuses on the application of numerical methods and computational tools in solving engineering problems. The course covers various mathematical techniques and numerical algorithms used in civil engineering analysis and design. In addition to learning the use of mathematical engineering programs in analyzing mathematical problems represented by the MathCAD program.			

Module 2

Code	Module Title	ECTS	Semester
CIVE311	Theory of Structures I	4	5
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	37
Description			
Theory of Structures I in civil engineering is a foundational course that focuses on the fundamental principles and analysis techniques used in structural engineering. The course provides students with an understanding of the behavior and analysis of various structural elements & systems. It lays the groundwork for advanced courses in structural analysis & design.			

Module 3

Code	Module Title	ECTS	Semester
CIVE312	Reinforced Concrete Design I	4	5
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	37
Description			
Reinforced Concrete Design I in civil engineering is a course that focuses on the principles and design considerations for reinforced concrete structures. It provides students with an understanding of the behavior, analysis, and design of reinforced concrete elements and systems. The course typically covers the following modules: Introduction to Reinforced Concrete Design, Structural Analysis of Reinforced Concrete Elements, Flexural Design of Reinforced Concrete Beams, ..etc.			

Module 4

Code	Module Title	ECTS	Semester
CIVE313	Soil Mechanics I	4	5
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	2	78	22
Description			
Soil Mechanics I in civil engineering is a foundational course that focuses on the behavior and properties of soils. It provides students with an understanding of the fundamentals of soil mechanics and its applications in civil engineering projects. The course covers various aspects of soil behavior, soil classification, and basic soil testing methods. Here are some common modules covered in a Soil Mechanics I course for civil engineering: Introduction to Soil Mechanics, Soil Classification, Soil Water, Soil Compaction, ..etc.			

Module 5

Code	Module Title	ECTS	Semester
CIVE314	Sanitary Engineering I	4	5
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	37
Description			
Sanitary Engineering I in civil engineering is a course that focuses on the principles and practices of sanitation and wastewater management in civil engineering projects. It provides students with an understanding of the design, operation, and maintenance of sanitary systems.			

Module 6

Code	Module Title	ECTS	Semester
CIVE315	Traffic Engineering I	4	5
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	1	48	52
Description			
Traffic Engineering I in civil engineering is a course that focuses on the principles and practices of traffic engineering, including the design and analysis of transportation systems and the management of traffic flow. It provides students with an understanding of traffic behavior, traffic control measures, and the design of transportation facilities.			

Module 7

Code	Module Title	ECTS	Semester
CIVE316	Engineering Management & Economics	4	5
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	0	33	67
Description			
Engineering Management & Economics in civil engineering is a course that focuses on the principles and practices of managing engineering projects and making informed economic decisions. It provides students with the necessary skills to plan, execute, and control engineering projects while considering economic factors.			

UG III – Semester 6

Module 1

Code	Module Title	ECTS	Semester
CIVE320	Hydrology	5	4
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	62
Description			
Hydrologic cycle and measurement of temperature, induty, and wind, and the type of precipitation and method of measurement. the stream flow and method of measure the stage, velocity and discharge. Rating curve. Evaporation and method of measurement. Subsurface water and ground water movement in confined and unconfined aquifer. Characteristic of hydrograph and separation of hydrograph. Unit storm. Stream flow routing And Applications like hydraulic design of spillway, sewage, reservoirs and dams.			

Module 2

Code	Module Title	ECTS	Semester
CIVE321	Theory of Structures II	4	6
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Theory of Structures II in civil engineering is an advanced course that builds upon the concepts and analysis techniques covered in Theory of Structures I. The course focuses on more complex structural systems and advanced analysis methods. It provides students with an in- depth understanding of structural behavior and advanced structural analysis techniques.			

Module 3

Code	Module Title	ECTS	Semester
CIVE322	Reinforced Concrete Design II	5	6
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Reinforced Concrete Design II in civil engineering is an advanced course that builds upon the concepts and principles covered in Reinforced Concrete Design I. The course focuses on the design and analysis of more complex reinforced concrete structures and elements. It provides students with a deeper understanding of the behavior of reinforced concrete and advanced design considerations.			

Module 4

Code	Module Title	ECTS	Semester
CIVE323	Soil Mechanics II	5	6
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	2	78	47
Description			
Soil Mechanics II in civil engineering is an advanced course that builds upon the concepts covered in Soil Mechanics I. The course focuses on more complex topics and advanced analysis techniques used in geotechnical engineering. It provides students with a deeper understanding of soil behavior, soil testing, and advanced geotechnical analysis methods. Here are some common modules covered in a Soil Mechanics II course for civil engineering: Soil Consolidation and Settlement, Shear Strength and Slope Stability, Lateral Earth Pressure and Retaining Structures, ..etc.			

Module 5

Code	Module Title	ECTS	Semester
CIVE324	Sanitary Engineering II	4	6
Class (hr/w)	**Lab. + Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2+1	78	22
Description			
Sanitary Engineering II in civil engineering is an advanced course that delves deeper into the design and management of sanitary systems and infrastructure. It focuses on advanced topics and specialized aspects of sanitation and wastewater management. The course typically covers the following topics: the knowledge to study wastewater properties and water lab tests, design sewage networks, estimation of storm water and design wastewater treatment.			

Module 6

Code	Module Title	ECTS	Semester
CIVE325	Environmental Engineering	4	6
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	37
Description			
Environmental Engineering in civil engineering is a course that focuses on the application of engineering principles to protect and improve the environment. It covers various aspects of environmental engineering, including water and wastewater treatment, air pollution control, solid waste management, and environmental impact assessment.			

Module 7

Code	Module Title	ECTS	Semester
CIVE326	Professional Ethics	2	6
Class (hr/w)	**Lect/Lab./Prac./Tutor**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	0	33	17
Description			
Engineering Management & Economics in civil engineering is a course that focuses on the principles and practices of managing engineering projects and making informed economic decisions. It provides students with the necessary skills to plan, execute, and control engineering projects while considering economic factors.			

UG IV – Semester 7

Module 1

Code	Module Title	ECTS	Semester
CREQ410	Project I	2	7
Class (hr/w)	Practical (hr/w)	SSWL (hr/sem)	USWL (hr/sem)
0	2	33	17
Description			
Project in the 4th level is a module that is typically included in the final year of a civil engineering program. It aims to provide students with an opportunity to apply their knowledge and skills to a research project in a specific area of civil engineering.			

Module 2

Code	Module Title	ECTS	Semester
CIVE410	Hydraulics	4	7
Class (hr/w)	Tutorial (hr/w)	SSWL (hr/sem)	USWL (hr/sem)
3	1	63	37
Description			
In civil engineering, the study of hydraulics encompasses several important modules that are essential for understanding and designing various water-related systems. Here are some key modules in the field of hydraulics: Fluid Properties, Fluid Statics, Flow in Pipes, ..etc.			

Module 3

Code	Module Title	ECTS	Semester
CIVE411	Steel Design I	5	7
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Steel Design I" is a module in civil engineering that focuses on the design and analysis of structural steel elements and systems. It provides students with the knowledge and skills necessary to design steel structures that can withstand various loads and ensure structural safety. To make the student able to analyze and design essential structural steel members according to the AISC - ASD and AISD – LRFD Specifications.			

Module 4

Code	Module Title	ECTS	Semester
CIVE412	Reinforced Concrete Design III	5	7
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Reinforced Concrete Design III" is a module in civil engineering that focuses on advanced topics related to the design and analysis of reinforced concrete structures. Building upon the knowledge gained in previous reinforced concrete design modules, this module typically covers the following topics: Flexural Design of Beams, Design of Columns, ..etc.			

Module 5

Code	Module Title	ECTS	Semester
CIVE413	Foundation Engineering I	5	7
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Foundation Engineering I" is a module in civil engineering that focuses on the principles and practices related to the design and analysis of foundations for structures. It provides students with an understanding of the behavior of soil and the design considerations for various types of foundations. The module typically covers the following modules: Introduction to Foundation Engineering, Soil Mechanics Fundamentals, Bearing Capacity and Settlement Analysis, ..etc.			

Module 6

Code	Module Title	ECTS	Semester
CIVE414	Elective I	4	7
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	37
Description			
As per subject.			

Module 7

Code	Module Title	ECTS	Semester
CIVE415	Geometric Design of Highways	5	7
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
Geometric Design of Highways is a module in civil engineering that focuses on the principles and practices involved in designing the geometric features of highways and roadways. It covers various aspects of highway design, including alignment, cross-section, intersections, and interchanges.			

UG IV – Semester 8

Module 1

Code	Module Title	ECTS	Semester
CREQ420	Project I	2	8
Class (hr/w)	**Practical (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
0	2	33	17
Description			
Project in the 4th level is a module that is typically included in the final year of a civil engineering program. It aims to provide students with an opportunity to apply their knowledge and skills to a research project in a specific area of civil engineering.			

Module 2

Code	Module Title	ECTS	Semester
CIVE420	Construction Methods & Estimation	4	8
Class (hr/w)	Tutorial (hr/w)	SSWL (hr/sem)	USWL (hr/sem)
3	1	63	37
Description			
Construction Methods & Estimation is a module in civil engineering that focuses on the planning, management, and estimation of construction projects. It encompasses various aspects of construction, including the principles of management and economics in engineering projects in order to manage engineering equipment and machinery in order to achieve the best productivity and at the lowest possible cost and manage their maintenance.			

Module 3

Code	Module Title	ECTS	Semester
CIVE421	Steel Design II	5	8
Class (hr/w)	Tutorial (hr/w)	SSWL (hr/sem)	USWL (hr/sem)
3	1	63	62
Description			
Steel Design II is an advanced module in civil engineering that focuses on the design and analysis of steel structures. Building upon the fundamentals of Steel Design I, this module delves deeper into complex steel structures and advanced design principles. To make the student able to analyze and design essential structural steel members according to the AISC - ASD and AISD – LRFD Specifications.			

Module 4

Code	Module Title	ECTS	Semester
CIVE422	Reinforced Concrete Design IV	5	8
Class (hr/w)	Tutorial (hr/w)	SSWL (hr/sem)	USWL (hr/sem)
3	1	63	62
Description			
Reinforced Concrete Design IV is an advanced module in civil engineering that focuses on the design and analysis of reinforced concrete structures. It builds upon the foundational knowledge of Reinforced Concrete Design I, II, and III and delves into more specialized topics and advanced design principles. The student acquires knowledge and special skills to analyze and design of different types of reinforced concrete slabs using several methods specified and accepted by the current code provisions.			

Module 5

Code	Module Title	ECTS	Semester
CIVE423	Foundation Engineering II	5	8
Class (hr/w)	Tutorial (hr/w)	SSWL (hr/sem)	USWL (hr/sem)
3	1	63	62
Description			
Foundation Engineering II is an advanced module in civil engineering that focuses on the design and analysis of deep foundations and complex geotechnical systems. It builds upon the knowledge and principles learned in Foundation Engineering I and delves into more specialized topics.			

Module 6

Code	Module Title	ECTS	Semester
CIVE424	Elective II	5	8
Class (hr/w)	**Tutorial (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
3	1	63	62
Description			
As per subject.			

Module 7

Code	Module Title	ECTS	Semester
CIVE425	Pavement Engineering	4	8
Class (hr/w)	**Lab. (hr/w)**	**SSWL (hr/sem)**	**USWL (hr/sem)**
2	2	63	37
Description			
Pavement Engineering is a specialized module in civil engineering that focuses on the design, construction, and maintenance of road pavements. It involves studying the behavior of pavement materials, traffic loads, and environmental factors to develop sustainable and durable road infrastructure.			