

Programme Catalogue

College Name	College Abbreviation
College of Engineering	ENG
Department Name (in English)	Department Abbreviation
Mechanical Engineering	MECH
Department Name (in Kurdish)	
ئه‌ندازياريا ميكانيك	
Department Name (in Arabic)	
الهندسة الميكانيكية	
1. Qualification awarded	
Bachelor of Science (B.Sc.) in Mechanical Engineering	
2. Length of programme	
4 years (8 semesters)	
3. Number of credits	
240 ECTS credits (30 credits per semester)	
4. Level of qualification according to the National Qualification Framework and the European Qualifications Framework	
Level 6 of the National Qualifications Framework and the European Qualifications Framework (Bachelor's degree)	
5. Field(s) of study (e.g. ISCED-F)	
ISCED-F code 0715 – Mechanics	
6. Specific admission requirements (if applicable)	
Applicants must hold a recognised secondary school certificate or its equivalent. Admission is centrally managed through the Kurdistan Regional Ministry of Higher Education's ZankoLine system to ensure transparency and equal opportunities. Strong performance in mathematics and science subjects are typically required.	
7. Specific arrangements for recognition of prior learning (formal, non-formal and informal) (if applicable)	
The University of Duhok follows the European Credit Transfer and Accumulation System (ECTS) guidelines. Credits may be awarded for learning outcomes acquired through work experience, voluntary work or independent study when they meet programme requirements. Assessment methods verify the achievement of learning outcomes rather than attendance of specific learning activities, and the same number of ECTS credits is awarded as the corresponding part of the formal programme.	
8. Qualification requirements and regulations, including graduation requirements	
To graduate students must successfully complete all compulsory and elective modules, including a final-year project and an internship, and accumulate 240 ECTS credits over four years. Student assessment combines formative (50 %) and summative (50 %) evaluations. The summative component typically comprises a mid-term examination (around 20 %) and a final examination (approximately 50 %). A minimum mark of 50 % in each module is required for to successfully pass	
9. Profile of the programme	
The B.Sc. programme offers a general specialisation in mechanical engineering and was established in 2015. It provides an interdisciplinary curriculum focusing on sustainability, product design and project management. Courses develop students' knowledge in mechanics, thermodynamics, fluid mechanics, heat transfer, materials science, dynamics, vibrations, control and computer-aided design. The programme addresses pressing needs in energy, transportation and health and aspires to become a centre of advanced research, emphasising excellence in teaching, research and service.	

10. Programme Educational Objectives

1. **Technical Leadership in Regional Industries:** Graduates will excel in applying advanced mechanical engineering principles to address complex challenges and drive innovation within the industrial, service, food processing, energy, and oil sectors of Kurdistan.
2. **Sustainable Solutions and Ethical Practice:** Graduates will design, implement, and manage engineering solutions that prioritize public health, safety, environmental sustainability, and economic viability, adhering to professional ethics and responsibilities in the local and global context.
3. **Collaborative Professional Development:** Graduates will effectively collaborate within diverse teams, communicate complex technical information, and commit to continuous professional development to adapt to evolving technological landscapes and industry demands in the region.

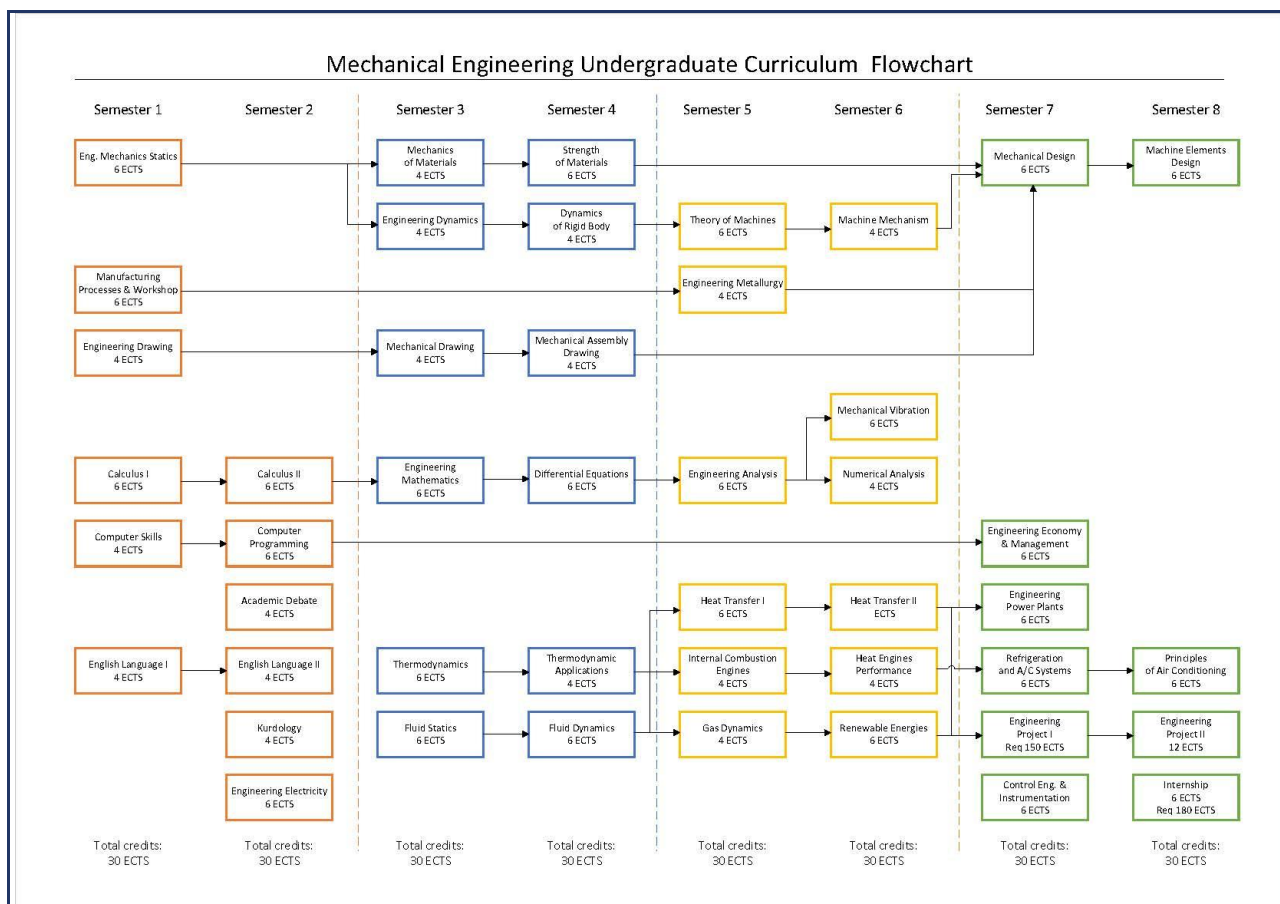
11. Programme learning outcomes

1. An ability to identify, formulate, and solve complex mechanical engineering problems, particularly those encountered in industrial machinery, energy systems, and infrastructure, by applying principles of engineering, science, and mathematics.
2. An ability to apply mechanical engineering design principles to develop and optimize solutions for mechanical systems (e.g., HVAC, power generation, industrial processes, food production machinery), considering performance, efficiency, safety, and relevant socio-economic factors.
3. An ability to develop, conduct, and interpret results from appropriate experimentation and simulations for mechanical systems, critically analyzing data to draw valid engineering conclusions.
4. An ability to recognize ethical and professional responsibilities in mechanical engineering practice, making informed judgments that consider the impact of engineering solutions on local and global society, economy, and environment, especially within regional industrial contexts.
5. An ability to function effectively on multidisciplinary teams, providing leadership, fostering collaboration, and communicating complex technical information clearly to a range of audiences, both within engineering and with non-technical stakeholders.
6. An ability to acquire and apply new knowledge and emerging technologies in mechanical engineering, utilizing appropriate learning strategies to adapt to the dynamic needs of the industrial and service sectors.

12. Programme structure diagram with credits

The programme follows a modular structure with two semesters per academic year (30 ECTS each, 60 ECTS per year). Key elements include:

- Year 1 (Semesters 1–2): fundamentals in calculus, physics, chemistry, engineering mechanics – statics, engineering drawing, computing skills and communication skills.
- Year 2 (Semesters 3–4): courses in dynamics, strength of materials, thermodynamics, materials science, computer programming, and electrical engineering basics.
- Year 3 (Semesters 5–6): fluid mechanics, heat transfer, mechanical design, machine elements, numerical analysis, manufacturing processes and electives in sustainability and renewable energy.
- Year 4 (Semesters 7–8): control engineering and instrumentation, power plants, refrigeration and air-conditioning systems, engineering economy and management, renewable energies, engineering projects I & II and a mandatory internship in the eighth semester.



13. Mode of Study

Full time on campus

14. Examination regulations and grading scale

The following grading scale is used:

% Points	Grade
90 – 100	Excellent
80 - < 90	Very Good
70 - < 80	Good
60 - < 70	Medium
50 - < 60	Pass
0 - < 50	Fail

15. Mobility window (if applicable)

N/A

16. Work placement(s)/internships (if applicable)

A supervised industrial internship is compulsory in the eighth semester. Students work with local or regional industries, power plants or maintenance workshops to apply theoretical knowledge to real engineering problems, develop professional skills and gain insight into the mechanical engineering profession.

17. Work-based learning (if applicable)

Work-based learning is integrated throughout the curriculum via laboratory sessions, design projects and final-year capstone projects. The mechanical department operates heat-transfer and fluid-dynamics laboratories where students perform experiments and collect data. Projects emphasise problem-based learning, teamwork and the application of engineering tools and simulation software.

18. Programme director or equivalent

Dr. Saeed Rajab Rekani – Assistant Professor and Head of the Mechanical Engineering

Department (specialization in fluid mechanics and computational fluid dynamics).
Email: saeed.yassen@uod.ac; phone: +964 750 290 2222.

19. Occupational profiles of graduates

Graduates can work in a wide range of sectors, including automotive, aerospace, energy, manufacturing, heating and refrigeration and consultancy. Typical roles involve analysing problems and designing, developing, testing and supervising the manufacture of mechanical and thermal devices such as engines, turbines, power plants and air-conditioning systems. Graduates also investigate equipment failures, develop prototypes and ensure products meet quality and safety standards.

20. Access to further studies

Holders of the B.Sc. degree in Mechanical Engineering are eligible for postgraduate studies at Master's (Level 7) and Doctoral (Level 8) levels in mechanical engineering or related fields. The University of Duhok and other universities in Iraq and abroad offer master's and PhD programmes in mechanical engineering, energy, materials, manufacturing and industrial engineering.

21. Academic Staff

Full Name	Qualification	Academic title	Email
Saeed Rajab Yasseen	PhD	Assistant professor	saeed.yassen@uod.ac
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Mazin Senhareeb Raoof	MSc	Assistant lecturer	mazin.senhareeb@uod.ac

22. Facilities and Resources (Lecture halls, Labs, etc.)

The programme uses these facilities:

Type	Quantity	Capacity (students)	Type of use	Equipment included
class	7	40	lecture	students' seats
computing laboratories	1	18	programming	computers
Heat lab	1	15	Heat test	

23. Accreditation and recognition

The programme adheres to the Bologna Process and the European Credit Transfer and Accumulation System (ECTS). The University of Duhok is officially recognised by the Kurdistan Regional Government's Ministry of Higher Education and Scientific Research. It has been selected as a pilot institution by the Kurdistan Accreditation Association for Education

(KAAE) and is preparing for an eligibility accreditation meeting as part of its strategy to achieve international academic recognition.