

University of Misan

جامعة ميسان



Bachelor's degree (B.Sc.) in Mechanical Engineering

بكالوريوس في الهندسة الميكانيكية



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1. Mission & Vision Statement

Vision Statement

The Department of Mechanical Engineering, as a leading academic institution in the field of science, knowledge and community service, looks forward to this institution, and its graduates being among the pioneers of the progress and prosperity of our country by providing engineering programs and services to the community in accordance with international standards of comprehensive quality.

Mission Statement

The Department of Mechanical Engineering seeks to prepare successful engineering cadres armed with science and values to advance the scientific and cognitive reality of society and develop it according to a renewed and distinguished scientific academic system, and to provide it with a generation of conscious and empowered youth in modern concepts and skills with inspiration from the civilizational and Islamic heritage of Iraq.

2. Program Specification

Programme code:	BSc-Mechanical Engineering	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

Mechanical engineering science is a wonderfully wide-ranging subject. The focus of the program is on everything related to the mechanical engineering, whether it is power or applied mechanics. The degree is popular or some it is the breadth of the subject that appeals, for others it is a path to specialization. All students have the opportunity to transfer onto our specialist degrees in mechanical engineering at the end of the first year.

Level 1 exposes students to the fundamentals of mechanical engineering, suitable for progression to all programs within the mechanical engineering program group. Program-specific core topics are covered at Level 2 preparing for research-led subject specialist modules at Levels 3 and 4. A Leeds mechanical engineering graduate is therefore trained to appreciate how research informs teaching, according to the university mission statements.

At Levels 2, 3, and 4, students are free to choose more than half of their module credits with the proviso a range of modules are selected that reflect the complexity of the mechanical engineering to ensure the breadth of knowledge expected of a graduate with the mechanical engineering degree. This allows students to develop their own wide-ranging interests in mechanical engineering. Decisions on what to study are made with input from personal tutors.

The research ethos is developed and fostered from the start via practicals, either embedded in lecture modules or taught in dedicated practical modules, research seminars, and tutorials. There is a compulsory field course in Level 1, which students must pass in order to progress into Level 2, and optional field courses in Levels 2, 3, and 4. At Level 4 all students carry out an independent research project, which deals with theoretical or experimental studies in the fields of power or applied mechanics under the supervision of professional supervisory teams.

Academic tutorials are held at all levels with tutors who provide continuity and progressive guidance. All levels include a number of workshops to teach skills, e.g., use of library and presentation skills, followed by assessed exercises, e.g., essays and talks, as opportunities to practice these skills in a subject-specific context.

3. Program Objectives

1. Providing the community with specialized engineering expertise and competencies in mechanical engineering by raising the level of graduates in terms of knowledge, skills, and research.
2. Creating a university environment that stimulates the capabilities of university professors and students and encourages qualitative scientific productivity.

3. Developing scientific, research, professional and educational capacities, and capabilities to reach a state of competition at the local and international levels.
4. Developing the administrative and scientific work system in the department, which makes it productive.
5. Integration between educational outputs and the labor market should be achieved in order to form a solid scientific basis for solving industrial and service problems in the country.
6. Opening up to society locally, in the Arab world, and globally and enhancing communication for the purpose of achieving the desired goals.

4. Student Learning Outcomes

These student learning outcomes in Mechanical Engineering ensure that graduates are well-prepared to contribute to designing, developing, and operating mechanical systems in diverse industries such as automotive, aerospace, energy, manufacturing, and robotics.

Outcome 1

Technical Competence

Mechanical Engineering students will develop a strong foundation in core engineering principles and acquire technical expertise in thermodynamics, mechanics, materials science, and control systems. They will demonstrate proficiency in applying this knowledge to solve complex engineering problems.

Outcome 2

Design and Innovation

Students will gain the skills to design and innovate mechanical systems and components. They will be able to analyze requirements, develop conceptual designs, and apply engineering principles to create efficient, reliable, and sustainable solutions.

Outcome 3

Experimental and Analytical Skills

Mechanical Engineering students will develop the ability to conduct experiments, analyze data, and draw meaningful conclusions. They will utilize laboratory equipment and computational tools to evaluate the performance of mechanical systems and validate design solutions.

Outcome 4

Teamwork and Communication

Students will work effectively in multidisciplinary teams, demonstrating collaboration, leadership, and effective communication skills. They will be able to contribute constructively to group projects, present technical information clearly, and collaborate with professionals from diverse backgrounds.

Outcome 5

Professional Ethics and Responsibility

Mechanical Engineering graduates will understand their profession's ethical and professional responsibilities. They will adhere to high standards of integrity, demonstrate awareness of environmental and societal impacts, and prioritize safety and sustainability in their engineering practices.

Outcome 6

Lifelong Learning and Adaptability

Students will develop a mindset of continuous learning and adaptability to evolving technologies and industry trends. They will engage in professional development activities, stay updated with advancements in the field, and possess the skills to adapt to new challenges and technologies throughout their careers.

5. Academic staff

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6. Credits, Grading and GPA

Credits

Misan University/College of Engineering follows the Bologna Process with the European Credit Transfer System (ECTS) credit system. The total degree program number of ECTS is 240, 30 ECTS per semester. 1 ECTS is equivalent to 25 hours of student workload, including structured and unstructured workload.

Grading

Before the evaluation, the results are divided into two subgroups: pass and fail. Therefore, the results are independent of the students who failed a course. The grading system is defined as follows:

GRADING SCHEME				
مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success	A - Excellent	امتياز	90 - 100	Outstanding Performance

Group (50 - 100)	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	راسب - قيد المعالجة	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required
Note:				
<p>Number 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.</p>				

Calculation of the Cumulative Grade Point Average (CGPA)

- The CGPA is calculated by multiplying each module score by its ECTS and dividing the result by the program's total ECTS.

CGPA of a 4-year B.Sc. degree:

$$\text{CGPA} = [(1^{\text{st}} \text{ module score} \times \text{ECTS}) + (2^{\text{nd}} \text{ module score} \times \text{ECTS}) + \dots] / 240$$

7. Curriculum/Modules

Semester 1| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENG122	Mathematics I	63	62	5	B	
ME112	Static Engineering Mechanics	78	47	5	C	
ME113	Principles of Production Engineering	93	57	6	C	
ENG126	Chemistry	33	42	3	S	
ENG128	Engineering Drawings	93	82	7	B	
UOM120	English Language	33	17	2	B	

UOM121	Democracy and Human Rights	17	50	2	S	
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Semester 2| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENG124	Mathematics II	63	62	5	B	Mathematics I
ME122	Dynamic Engineering Mechanics	123	102	9	C	
ENG123	Workshop Technology	33	17	2	B	
ENG125	Physics	33	42	3	S	
ME125	Electrical Engineering	78	47	7	S	
ENG127	Computer Fundamental and Programming	123	52	4	B	

Semester 3| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENG201	Mathematics III	63	37	4	B	
ME212	Fluid Statics	48	77	5	C	
ME213	Thermodynamics I	48	52	4	C	
ME214	Mechanics of Materials	78	47	5	C	
ME215	Mechanical Drawing	93	57	6	C	
ME216	Programming of Computers	108	42	6	B	

Semester 4| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ENG202	Mathematics IV	63	37	4	B	Mathematics III
ME222	Fluid Dynamics	78	47	5	C	
ME223	Thermodynamics II	78	47	5	C	
ME224	Strength of Materials	48	52	4	C	
ME225	Engineering Metallurgy	78	47	5	C	
UOM201	Computer II	63	17	3	B	
UOM202	Technical English	33	17	2	B	

MNS120	Crimes of the Baath regime in Iraq	33	17	2	B	
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Semester 5| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
E311	Engineering Analysis	63	62	5	B	
ME312	Heat Transfer I	48	52	4	C	
ME313	Theory of Mechanism	93	32	5	C	
ME314	Internal Combustion Engines I	93	32	5	C	
ME315	Gas Dynamics	48	52	4	C	
ME316	Manufacturing Process	108	67	7	C	

Semester 6| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
E321	Numerical Analysis	78	47	5	B	
ME322	Heat Transfer II	93	57	6	C	
ME323	Theory of Machines	48	27	3	C	
ME324	Internal Combustion Engines II	48	27	3	C	
ME325	Turbo Machinery	93	57	6	C	
ME326	Electrical Machines	108	67	7	S	

Semester 7| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME411	Design of Machine Elements I	108	67	7	C	
ME412	Power Plant	123	77	8	C	

ME413	Theory of Vibrations	48	27	3	C	
ME414	Control	48	27	3	C	
ME415	Engineering Materials	63	62	5	C	
ME416	Engineering Project	78	22	4	S	

Semester 8| 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME421	Design of Machine Elements II	63	62	5	C	
ME422	Air Conditioning and Refrigeration	123	52	7	C	
ME423	Vibration Applications	93	32	5	C	
ME424	Measurements	78	47	5	C	
ME425	Industrial Engineering	63	62	5	S	
ME416	Engineering Project (continued)	48	27	3	S	

8. **Contact**

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