

University of Baghdad



جامعة بغداد

First Cycle – Bachelor's degree (B.Sc.) – Mechanical Engineering

بكالوريوس هندسة - هندسة ميكانيكية



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Mission & Vision Statement .1

Vision Statement

The Department of Mechanical Engineering (ME) endeavors to be one of the leading mechanical departments in Iraq and the region.

Mission Statement

1. Graduating highly qualified ethical mechanical engineers.
2. Building the leadership qualities in its graduates through teaching how to lead, problem solving, team work, quality considerations, and professionalism at work.
3. Instilling in graduates the spirit and commitment for acquiring knowledge and community service.
4. Contributing ideas of projects and carrying out research for the benefit and development of the community.
5. Nurturing and care of outstanding students and encouraging them to use their skills.
6. Student counseling, guidance and strengthening of citizenship spirit.
7. Providing good working environment for students, faculty, and other personnel with emphasis on high academic, professional and ethical standards within the university campus. Freedom of opinions and respect of others opinions and encouragement in exchanging knowledge

Program Specification .2

Programme code:	BSc-Mech. Eng.	ECTS	240
Duration:	4 levels, 8 Semesters	Method of Attendance:	Full Time

Mechanical Engineering (ME) is the broadest of main engineering disciplines. Modern mechanical products can incorporate mechanical, electrical and structural elements, requiring professional mechanical engineers to provide design and manufacturing expertise from a wide range of engineering disciplines. The degree programme at the University of Baghdad therefore provides a strong and broad academic engineering education balanced with practical experience to equip graduates with the range of skills a mechanical engineers needs in order to meet the present day challenges in a diverse range of career. ME plays a vital role in manufacturing and in technological advancement. The Mechanical Engineering degree programme at the University of Baghdad provides the strong academic education needed to equip the graduate with the broad range of skills a mechanical engineer will need, both today and into the future, to meet the challenges of a diverse range of roles that might be taken, both at home and abroad.

Program Goals .3

Since its establishment, the Department of (ME) at the College of Engineering / University of Baghdad, worked hardly and continuously based on his noble mission in society service to achieve a number of strategically goals and objectives, the most important of them are;

1. Graduate mechanical engineers to serve in industry, construction and other sectors of the mechanical engineering labour market.
2. Improving the teaching and administrative activities to meet international accreditations standards and the mission of the department.
3. Improving the academic abilities of the faculty and attracting highly skilled personnel.
4. Improve the abilities of management and technical supporting staff and attract the highly skilled for employment.
5. Optimum use of resources and potentials of the department.
6. Cooperation, academic exchange programs, partnerships with other universities and academic centers in developed countries.
7. Establishing viable applied research that generates knowledge for local and foreign markets.

The above-mentioned mission statement of the (ME) Department is posted on the following web site of the College of Engineering at the University of Baghdad:
<https://coeng.uobaghdad.edu.iq/>

Student Learning Outcomes .4

Outcome 1

An ability to identify, formulate, and solve engineering problems by applying the knowledge of mathematics, science, and engineering.

Outcome 2

An ability to design a system, component, or process to meet the desired needs within realistic constraints such as economic, environmental, social, political, ethical, public health and safety, manufacturability, and sustainability.

Outcome 3

An ability to design and conduct experiments, analyzes, and interprets data, and use the engineering sense to draw conclusions.

Outcome 4

An ability to communicate effectively with a range of audiences..

Outcome 5

An ability to understand the professional and ethical responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in a global, economic, environmental, and societal contexts.

Outcome 6

An ability to recognize the need for and engage in a life-long learning, a knowledge of contemporary issues, and an ability to utilize the techniques, skills, and modern engineering tools necessary for engineering practice.

Outcome 7

An ability to function effectively as a member or leader of multidisciplinary teams that establish goals, plan tasks, meet deadlines, and create a collaborative environment.

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Credits, Grading and GPA .6

Credits

(Name) University is following 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 hrs 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 Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	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:				
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.				

Calculation of the Cumulative Grade Point Average (CGPA)

1. The CGPA is calculated by the summation of each module score multiplied by its ECTS, all are divided by the program total ECTS.

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

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

Curriculum/Modules .7

Semester 1 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME 116	Engineering Mechanics-Static	90	85	7.00	B	
ME 115	Engineering Drawing Principles	75	100	7.00	B	
ME 114	Electrical Engineering	75	50	5.00	S	
ME 113	Mathematics / I	60	65	5.00	S	
ME 112	Programming /I	75	25	4.00	C	
UOBAG11	English Language /I	30	20	2.00		

Semester 2 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME 126	Engineering Mechanics-Dynamics	90	85	7.00	B	ME 116
ME 125	Production engineering	120	80	8.00	B	
ME 124	Engineering drawing	75	75	6.00	C	ME 115
ME 123	Mathematics / II	60	65	5.00	C	ME 113

UOBAG12	Human Rights	30	20	2.00		
UOBAG13	Arabic Language	30	20	2.00		

Semester 3 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME216	Assembly Engineering Drawing	45	55	4.00	C	ME 124
ME215	Fundamentals Fluid Mechanics	75	50	5.00	B	
ME225	Theory of Machines	75	75	6.00	B	ME 126
ME226	Thermodynamics	120	80	8.00	B	
ME212	Engineering Mathematics	60	65	5.00	C	ME 123
UOBAG21	English Language /II	30	20	2.00	B	UOBAG11

Semester 4 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME213	Metallurgy Engineering	90	60	6.00	B	ME 125
ME214	Programming /II	90	60	6.00	B	ME 112
ME224	Mechanics of Materials	75	75	6.00	B	ME 116
ME223	Fluid Mechanics Applications	75	50	5.00	B	ME215
ME222	Mechanical Drawing	45	55	4.00	C	ME216
ME221	Differential Equations	45	30	3.00	B	ME212

Semester 5 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME316	Engineering Analysis	90	85	7.00	c	ME221
ME315	Gas Dynamics	75	50	5.00	c	ME215
ME314	Conduction and Radiation Heat Transfer	60	65	5.00	c	ME226
ME313	Mechanics of Machines	45	30	3.00	c	ME225
ME323	Vibrations	75	50	5.00	c	ME 126
ME311	Electrical Machines	75	50	5.00	c	ME 114

Semester 6 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME326	Turbo Machines	75	50	5.00	c	ME223
ME325	Convection Heat Transfer	60	65	5.00	c	ME314
ME324	Principles of Manufacturing Process	90	85	7.00	c	ME213
ME312	Strength of Materials	120	80	8.00	c	ME224
ME322	Numerical Analysis	45	30	3.00	c	ME316
UOBAG31	English Language/ III	30	20	2.00	s	UOBAG21

Semester 7 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME 416	Design of Machine Element / I	90	85	7.00	c	ME312
ME 415	Air Conditioning + Refrigeration	120	80	8.00	c	ME226
ME 414	Engineering Materials	60	90	6.00	c	ME324
ME 413	elective	45	55	4.00	c	
ME 412	Engineering Project	45	30	3.00	c	
UOBAG41	English Language / IV	30	20	2.00	s	UOBAG31

Semester 8 | 30 ECTS | 1 ECTS = 25 hrs

Code	Module	SSWL	USSWL	ECTS	Type	Pre-request
ME 426	Design of Machine Element / II	90	60	6.00	c	ME312
ME 425	Power Engineering	105	70	7.00	c	ME226
ME 424	Control and Measurements	105	70	7.00	c	
ME 423	Industrial Engineering	75	50	5.00	c	ME324
ME 422	Engineering Project	45	30	3.00	c	
UOBAG42	Profession Ethics	30	20	2.00	s	

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