

Bachelor of Science in Mechanical Engineering Model Study Plan (2022-2023 Cohort onwards)

For Students Admitted to the University from the Fall Semester

Total Degree Credit hours: 147

Semester	Course Code	Course Title	Cr	Course type	Semester	Course Code	Course Title	Cr	Course type
Year 1 (Fall)	MATH110/130	Calculus I for Engineering	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)	2 (Spring)	MATH110/135	Calculus II for Engineering	3	College Requirement
	PHYS105	General Physics I	3	College Requirement		PHYS110	General Physics II	3	College Requirement
	PHYS135	General Physics Lab I	1	College Requirement		PHYS140	General Physics Lab II	1	College Requirement
	ESP107	Introduction to Academic English For Engineering	3	Gen Ed Course (Cluster 1: Area 2: English Communication)		ENGG130	Computer Programming	3	College Requirement
	CHEM111	General Chemistry I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)		ENGG215	Engineering Ethics	2	College Requirement
Year 2 (Fall)	CHEM175	Chemistry Lab I for Engineering	1	College Requirement	4 (Spring)	MECH200	Introduction to Engineering Drawing and Workshop	1	Specialization
	MATH222/201/145	Linear Algebra for Engineering	3	College Requirement		MECH305	Mechanics of Materials	3	Specialization
	MATH2210/270	Differential Equations for Engineering	3	College Requirement		MECH315	Geometric Modeling	2	Specialization
	GENG220	Engineering Thermodynamics	3	College Requirement		MECH340	Fluid Mechanics	3	Specialization
	CIVL240	Statics	3	Specialization		MECH348	Fluid Mechanics Lab	1	Specialization
Year 3 (Fall)	MECH210	Measurement and Instrumentation Lab	1	Specialization	6 (Spring)	ELEC372	Electro-Mechanical Devices	2	Specialization
	MECH240	Introduction to Computing Lab in ME	1	Specialization		MECH384	Mathematics for Mech. Eng.	3	Specialization
	STAT210	Probability and Statistics	3	College Requirement		MECH306	Manufacturing Processes	3	Specialization
	MECH311	Applied Thermodynamics	3	Specialization		MECH310	Dynamics	3	Specialization
	MECH390	Engineering Materials	3	College Requirement		MECH426	Thermofluid System Design & Analysis	3	Specialization
Year 4 (Fall)	MECH407	Machine Design I	3	Specialization	8 (Spring)	MECH412	Machine Design II	3	Specialization
	MECH411	Heat Transfer	3	Specialization		MECH435	Introduction to Computer Aided Manufacturing	3	Specialization
	GENG115	Engineering Economics	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)		MECH430	Thermal Engineering Lab	1	Specialization
	MECH409	Dynamic Systems & Control	3	Specialization		MECH485	Industrial Training	15	Internship
	MECH417	Kinematics Design of Machinery	3	Specialization	10 (Spring)				
Year 5 (Fall)	MECH433	Introduction to Computer Aided Manufacturing	3	Specialization					
	MECH440	Design and Manufacturing Lab	1	Specialization					
	GENG272	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)					
	MECH585	Design and Critical Thinking in Mechanical Engineering	3	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)		MECH590	Capstone Engineering Design Project	3	Specialization
Year 5 (Fall)	MECH450	Dynamic Systems and Control Lab	1	Specialization	10 (Spring)	BSUS121	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
	ISLM100/ISM101	Islamic Culture/Biography of the Prophet "Sira"	3	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)					
	GET112	Fourth Industrial Revolution	3	Gen Ed Course (Cluster 2: Area 3: Fourth Industrial Revolution)		MECH540	Selected Topics in Design & Manufacturing	3	Major Elective
	HS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)		MECH432	Design of Mechatronics Systems	3	Major Elective
	MECH513	Air Conditioning Systems	3	Major Elective					

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For Students Admitted to the University from the Spring Semester

Total Degree Credit hours: 147

Semester	Course Code	Course Title	Cr	Course type	Semester	Course Code	Course Title	Cr	Course type
Year 1 (Spring)	MATH110/130	Calculus I for Engineering	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)	2 (Fall)	MATH110/135	Calculus II for Engineering	3	College Requirement
	PHYS105	General Physics I	3	College Requirement		PHYS110	General Physics II	3	College Requirement
	PHYS135	General Physics Lab I	1	College Requirement		PHYS140	General Physics Lab II	1	College Requirement
	ESP107	Introduction to Academic English For Engineering	3	Gen Ed Course (Cluster 1: Area 2: English Communication)		ENGG130	Computer Programming	3	College Requirement
	CHEM111	General Chemistry I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)		ENGG215	Engineering Ethics	2	College Requirement
Year 2 (Spring)	CHEM175	Chemistry Lab I for Engineering	1	College Requirement	4 (Fall)	MECH200	Introduction to Engineering Drawing and Workshop	1	Specialization
	MATH222/201/145	Linear Algebra for Engineering	3	College Requirement		MECH305	Mechanics of Materials	3	Specialization
	MATH2210/270	Differential Equations for Engineering	3	College Requirement		MECH315	Geometric Modeling	2	Specialization
	GENG220	Engineering Thermodynamics	3	College Requirement		MECH340	Fluid Mechanics	3	Specialization
	CIVL240	Statics	3	Specialization		MECH348	Fluid Mechanics Lab	1	Specialization
Year 3 (Spring)	MECH210	Measurement and Instrumentation Lab	1	Specialization	6 (Fall)	MECH306	Manufacturing Processes	3	Specialization
	MECH240	Introduction to Computing Lab in ME	1	Specialization		MECH310	Dynamics	3	Specialization
	STAT210	Probability and Statistics	3	College Requirement		MECH426	Thermofluid System Design & Analysis	3	Specialization
	MECH311	Applied Thermodynamics	3	Specialization		MECH407	Machine Design I	3	Specialization
	MECH390	Engineering Materials	3	College Requirement		MECH412	Machine Design II	3	Specialization
Year 4 (Spring)	MECH407	Machine Design I	3	Specialization	8 (Fall)	MECH435	Introduction to Computer Aided Manufacturing	2	Specialization
	MECH411	Heat Transfer	3	Specialization					
	GENG115	Engineering Economics	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)		MECH485	Industrial Training	15	Internship
	MECH409	Dynamic Systems & Control	3	Specialization					
	MECH417	Kinematics Design of Machinery	3	Specialization					
Year 5 (Spring)	MECH433	Introduction to Computer Aided Manufacturing	3	Specialization	10 (Fall)				
	MECH440	Design and Manufacturing Lab	1	Specialization					
	MECH585	Design and Critical Thinking in Mechanical Engineering	3	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)					
	MECH450	Dynamic Systems and Control Lab	1	Specialization		MECH590	Capstone Engineering Design Project	3	Specialization
	ISLM100/ISM101	Islamic Culture/Biography of the Prophet "Sira"	3	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)		BSUS121	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
Year 5 (Spring)	MECH516	Energy Management	3	Major Elective	10 (Fall)				
	GET112	Fourth Industrial Revolution	3	Gen Ed Course (Cluster 1: Area 3: Fourth Industrial Revolution)					
	HS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)		MECH513	Air Conditioning Systems	3	General Education Choice
						MECH545	Maintenance Engineering	3	Major Elective

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For Students Admitted to the University from the Fall Semester

Total Degree Credit hours: 132

Semester	Course Code	Course Title	Cr	Course type	Semester	Course Code	Course Title	Cr	Course type
Year 1 (Fall)	MATH130	Calculus I for Engineering	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)	2 (Spring)	MATH135	Calculus II for Engineering	3	College Requirement
	PHYS105	General Physics I	3	College Requirement		PHYS110	General Physics II	3	College Requirement
	PHYS135	General Physics Lab I	1	College Requirement		PHYS140	General Physics Lab II	1	College Requirement
	ESP107	Introduction to Academic English For Engineering	3	Gen Ed Course (Cluster 1: Area 2: English Communication)		ENGG130	Computer Programming	3	College Requirement
	CHEM111	General Chemistry I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)		ENGG215	Engineering Ethics	2	College Requirement
Year 2 (Fall)	CHEM175	Chemistry Lab I for Engineering	1	College Requirement	4 (Spring)	MECH200	Introduction to Engineering Drawing and Workshop	1	Specialization
	HS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)		ISLM101	Islamic Culture/Biography of the Prophet "Sira"	3	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)
	MATH140	Linear Algebra I	3	College Requirement		MECH305	Mechanics of Materials	3	Specialization
	MATH275	Ordinary Differential Equations	3	College Requirement		MECH315	Geometric Modeling	2	Specialization
	GENG260	Engineering Thermodynamics	3	College Requirement		MECH440	Fluid Mechanics	3	Specialization
Year 3 (Fall)	CIVL240	Statics	3	Specialization	6 (Spring)	MECH348	Fluid Mechanics Lab	1	Specialization
	MECH210	Measurement and Instrumentation Lab	1	Specialization		ELEC372	Electro-Mechanical Devices	2	Specialization
	MECH240	Introduction to Computing Lab in ME	1	Specialization		MECH384	Mathematics for Mech. Eng.	3	Specialization
	GENG272	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)		BSUS121	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
					8 (Spring)				
Year 4 (Fall)	MECH485	Internship I	1	Internship					
	STAT210	Probability and Statistics	3	College Requirement					
	MECH311	Applied Thermodynamics	3	Specialization		MECH306	Manufacturing Processes	3	Specialization
	MECH390	Engineering Materials	3	College Requirement		MECH310	Dynamics	3	Specialization
Year 5 (Fall)	MECH407	Machine Design I	3	Specialization	7 (Spring)	MECH426	Thermofluid System Design & Analysis	3	Specialization
	MECH411	Heat Transfer	3	Specialization		MECH390	Engineering Materials	3	College Requirement
	GENG115	Engineering Economics	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)		MECH590	Introduction to Mechatronics	3	Specialization
	MECH490	Internship II	1	Internship		GET112	Fourth Industrial Revolution	3	Gen Ed Course (Cluster 1: Area 3: Fourth Industrial Revolution)
Year 5 (Fall)	MECH585	Design and Critical Thinking in Mechanical Engineering	3	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)	7 (Spring)	MECH590	Capstone Engineering Design Project	3	Specialization
	MECH409	Dynamic Systems & Control	3	Specialization		MECH450	Dynamic Systems and Control Lab	1	Specialization
	MECH417	Kinematics Design of Machinery	3	Specialization					
	MECH433	Introduction to Computer Aided Manufacturing	3	Specialization					
	MECH440	Design and Manufacturing Lab	1	Specialization					
Year 5 (Fall)	MECH440	Design and Manufacturing Lab	1	Specialization	7 (Spring)				

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For Students Admitted to the University from the Spring Semester

Total Degree Credit hours: 132

Semester	Course Code	Course Title	Cr	Course type	Semester	Course Code	Course Title	Cr	Course type
Year 1 (Spring)	MATH130	Calculus I for Engineering	3	Gen Ed Course (Cluster 1: Area 5: Quantitative Reasoning)	2 (Fall)	MATH135	Calculus II for Engineering	3	College Requirement
	PHYS105	General Physics I	3	College Requirement		PHYS110	General Physics II	3	College Requirement
	PHYS135	General Physics Lab I	1	College Requirement		PHYS140	General Physics Lab II	1	College Requirement
	ESP107	Introduction to Academic English For Engineering	3	Gen Ed Course (Cluster 1: Area 2: English Communication)		ENGG130	Computer Programming	3	College Requirement
	CHEM111	General Chemistry I	3	Gen Ed Course (Cluster 3: Area 1: Natural Sciences)		ENGG215	Engineering Ethics	2	College Requirement
Year 2 (Spring)	CHEM175	Chemistry Lab I for Engineering	1	College Requirement	4 (Fall)	MECH200	Introduction to Engineering Drawing and Workshop	1	Specialization
	HS105	Emirates Studies	3	Gen Ed Course (Cluster 2: Area 3: Emirates Society)		ISLM101	Biography of the Prophet "Sira"	3	Gen Ed Course (Cluster 2: Area 4: Islamic Culture)
	MATH140	Linear Algebra I	3	College Requirement		MECH305	Mechanics of Materials	3	Specialization
	MATH275	Ordinary Differential Equations	3	College Requirement		MECH311	Applied Thermodynamics	3	Specialization
	GENG260	Engineering Thermodynamics	3	College Requirement		MECH440	Fluid Mechanics	3	Specialization
Year 3 (Spring)	CIVL240	Statics	3	Specialization	Summer	MECH348	Fluid Mechanics Lab	1	College Requirement
	MECH210	Measurement and Instrumentation Lab	1	Specialization		ENGG315	Engineering Economics	3	Gen Ed Course (Cluster 2: Area 2: Social and Behavioral Sciences)
	MECH240	Introduction to Computing Lab in ME	1	Specialization		BSUS121	Sustainability	3	Gen Ed Course (Cluster 3: Area 2: Sustainability)
	GENG272	Fundamentals of Innovation and Entrepreneurship	3	Gen Ed Course (Cluster 1: Area 1: Innovation and Entrepreneurship)					
Year 4 (Fall)	MECH490	Internship II	1	Internship	7 (Spring)	MECH585	Design and Critical Thinking in Mechanical Engineering	3	Gen Ed Course (Cluster 1: Area 4: Critical Thinking)
	STAT210	Probability and Statistics	3	College Requirement		MECH409	Dynamic Systems & Control	3	Specialization
	MECH311	Applied Thermodynamics	3	Specialization		MECH412	Machine Design II	3	Specialization
	MECH390	Engineering Materials	3	College Requirement		MECH426	Thermofluid System Design & Analysis	3	Specialization
	MECH407	Machine Design I	3	Specialization		MECH435	Introduction to Computer Aided Manufacturing	3	Specialization
Year 5 (Fall)	MECH417	Kinematics Design of Machinery	3	Specialization	7 (Spring)				
	MECH433	Introduction to Computer Aided Manufacturing	3	Specialization					
	MECH440	Design and Manufacturing Lab	1	Specialization					

Bachelor of Science in Mechanical Engineering Model Study Plan (2025-2026 Cohort onwards)

For Students Admitted to the University from the Fall Semester
Total Degree Credit hours: 132

Semester	Course Code	Course Title	Cr	Course type	Semester	Course Code	Course Title	Cr	Course type	
1 (Fall)	MATH130	Calculus I for Engineering	3	Specialization	2 (Spring)	MATH135	Calculus II for Engineering	3	College Requirement	
	PHYS105	General Physics I	3	College Requirement			PHYS110	General Physics II	3	College Requirement
	PHYS125	General Physics Lab I	1	College Requirement			PHYS140	General Physics Lab II	1	College Requirement
	ACADEM301	Academic English for Humanities and STEM	3	Gen. Ed. Theme 2: Academic Language Proficiency			GENE330	Computer Programming	3	College Requirement
	CHEM111	General Chemistry I	3	College Requirement			GENE215	Engineering Ethics	2	College Requirement
	CHEM175	Chemistry Lab I for Engineering	1	College Requirement			MECH200	Introduction to Engineering Drawing and Workshop	1	Specialization
3 (Fall)	GENE130	Contemporary Emirati Studies	3	Gen. Ed. Theme 1: UAE National Identity		MATH140	Linear Algebra	3	College Requirement	
	Elective	Student choice	3	Gen. Ed. Theme 7 or 8 or 9 or 10		MECH305	Mechanics of Materials	3	Specialization	
	MATH275	Ordinary Differential Equations	3	College Requirement		MECH315	Geometric Modeling	2	Specialization	
	GENE230	Engineering Thermodynamics	3	College Requirement		MECH340	Fluid Mechanics	3	Specialization	
	CIVL340	Statics	3	Specialization		MECH345	Fluid Mechanics Lab	1	Specialization	
	MECH210	Measurement and Instrumentation Lab	1	Specialization		ELEC372	Electro-Mechanical Devices	2	Specialization	
Summer	MECH240	Introduction to Computing Lab in ME	1	Specialization	4 (Spring)	MECH384	Mathematics for Mech. Eng.	3	Specialization	
	GEIE222	Fundamentals of Innovation and Entrepreneurship	1	Gen. Ed. Theme 4: Entrepreneurship			Elective	Student choice	3	Gen. Ed. Theme 5: Sustainability
	MECH485	Internship I	1	Internship						
	STAT210	Probability and Statistics	3	College Requirement			MECH306	Manufacturing Processes	3	Specialization
	MECH311	Applied Thermodynamics	3	Specialization			MECH310	Dynamics	3	Specialization
	MECH390	Engineering Materials	3	College Requirement			MECH426	Thermofluid System Design & Analysis	3	Specialization
5 (Fall)	MECH407	Machine Design I	3	Specialization	6 (Spring)	MECH412	Machine Design II	3	Specialization	
	MECH411	Heat Transfer	3	Specialization			MECH430	Introduction to Mechatronics	3	Specialization
	GENE315	Engineering Economics	3	Specialization			Elective	Student choice	3	Gen. Ed. Theme 3: Innovation
	MECH490	Internship II	1	Internship						
	MECH485	Design and Critical Thinking in Mechanical Engineering	3	Specialization			MECH390	Capstone Engineering Design Project	3	Specialization
	MECH409	Dynamic Systems & Control	3	Specialization			MECH450	Dynamic Systems and Control Lab	1	Specialization
7 (Fall)	MECH417	Kinematics Design of Machinery	3	Specialization	8 (Spring)	Elective	Student choice	3	Major Elective	
	MECH410	Introduction to Computer Aided Manufacturing	1	Specialization			Elective	Student choice	3	Major Elective
	MECH430	Thermal Engineering Lab	1	Specialization			Elective	Student choice	3	Gen. Ed. Theme 7 or 8 or 9 or 10
	MECH440	Design and Manufacturing Lab	1	Specialization						

Bachelor of Science in Mechanical Engineering Model Study Plan (2025-2026 Cohort onwards)

For Students Admitted to the University from the Spring Semester
Total Degree Credit hours: 132

Semester	Course Code	Course Title	Cr	Course type	Semester	Course Code	Course Title	Cr	Course type
Year 1 (Spring)	MATH130	Calculus I for Engineering	3	College Requirement	2 (Fall)	MATH135	Calculus II for Engineering	3	College Requirement
	PHYS105	General Physics I	3	College Requirement		PHYS110	General Physics II	3	College Requirement
	PHYS135	General Physics Lab I	1	College Requirement		PHYS140	General Physics Lab II	1	College Requirement
	GENE301	Academic English for Humanities and STEM	3	Gen. Ed. Theme 2: Academic Language Proficiency		GENE330	Computer Programming	3	College Requirement
	CHEM111	General Chemistry I	3	College Requirement		GENE215	Engineering Ethics	2	College Requirement
	CHEM175	Chemistry Lab I for Engineering	1	College Requirement		MECH200	Introduction to Engineering Drawing and Workshop	1	Specialization
Year 2 (Spring)	GENE130	Contemporary Emirati Studies	3	Gen. Ed. Theme 1: UAE National Identity	MATH140	Linear Algebra I	3	College Requirement	
	Elective	Student choice	3	Gen. Ed. Theme 7 or 8 or 9 or 10	MECH305	Mechanics of Materials	3	Specialization	
	MATH275	Ordinary Differential Equations	3	College Requirement	MECH311	Applied Thermodynamics	3	Specialization	
	GENE230	Engineering Thermodynamics	3	College Requirement	MECH340	Fluid Mechanics	3	Specialization	
	CIVL240	Statics	3	Specialization	MECH390	Engineering Materials	3	College Requirement	
	MECH210	Measurement and Instrumentation lab	1	Specialization	GENE315	Engineering Economics	3	College Requirement	
Year 3 (Spring)	MECH240	Introduction to Computing Lab in ME	1	Specialization	MECH350	Introduction to Mechatronics	3	Specialization	
	GEIE222	Fundamentals of Innovation and Entrepreneurship	1	Gen. Ed. Theme 4: Entrepreneurship	Summer	MECH485	Internship I	1	Internship
	STAT210	Probability and Statistics	3	College Requirement					
	MECH306	Manufacturing Processes	3	Specialization					
	MECH310	Dynamics	3	Specialization					
	MECH315	Geometric Modeling	2	Specialization					
ELEC372	Electro-Mechanical Devices	2	Specialization						
Year 4 (Fall)	MECH384	Mathematics for Mech. Eng.	3	Specialization	7 (Spring)	MECH405	Design and Critical Thinking in Mechanical Engineering	3	Specialization
	MECH348	Fluid Mechanics Lab	1	Specialization		MECH409	Dynamic Systems & Control	3	Specialization
	MECH411	Heat Transfer	3	Specialization		MECH412	Machine Design II	3	Specialization
	MECH407	Machine Design I	3	Specialization		MECH416	Thermofluid System Design & Analysis	3	Specialization
	MECH417	Kinematics Design of Machinery	3	Specialization		MECH430	Thermal Engineering Lab	1	Specialization
	MECH435	Introduction to Computer Aided Manufacturing	1	Specialization		Elective	Student choice	3	Major Elective
Year 5 (Fall)	MECH490	Internship II	1	Internship	8 (Fall)	MECH450	Dynamic Systems and Control Lab	1	Specialization
	Elective	Student choice	3	Gen. Ed. Theme 5: Sustainability		MECH460	Design and Manufacturing Lab	1	Specialization
	MECH411	Heat Transfer	3	Specialization		MECH490	Capstone Engineering Design Project	3	Specialization
	MECH450	Dynamic Systems and Control Lab	1	Specialization		MECH460	Design and Manufacturing Lab	1	Specialization
	MECH460	Design and Manufacturing Lab	1	Specialization		Elective	Student choice	3	Major Elective
	Elective	Student choice	3	Gen. Ed. Theme 3: Innovation		Elective	Student choice	3	Gen. Ed. Theme 7 or 8 or 9 or 10