



Fall 2023 through Summer 2024	B.S. Mechanical Engineering	MINIMUM TOTAL CREDIT HOURS: 128
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GENERAL EDUCATION REQUIREMENTS (58 hours)	MAJOR REQUIREMENTS (26 hours)	ENGINEERING CORE (35 hours)
First Year Writing I (3 hours) Hon 101, Writ 100 or Writ 101	ME 101 – Introduction to Mechanical Engineering (1 hour)	CSCI 251 – Programming for Engineering (3 hours)
First Year Writing II (3 hours) Hon 102, LIBA 102 or Writ 102	ME 201 – Engineering Graphics Fundamentals (2 hours)	ENGR 309 – Statics (3 hours)
Mathematics (15 hours) Calculus (12 hours each). Differential Equations (3 hours).	ME 324 – Introduction to Mechanical Design (3 hours)	ENGR 310 – Engineering Analysis I or MATH 375 – Statistics I (3 hours)
Science (16 hours) General Chemistry series with labs (8 hours). Calculus-based Physics series with labs (8 hours)	ME 325 – Intermediate Dynamics (3 hours)	ENGR 312 – Mechanics of Materials (3 hours)
Fine Arts (3 hours) * Chosen from Art History; Liberal Arts 130, 204, 314; Music (MU 101, 102, 103, 104, 105); Dance 200; Theatre (Thea 201, 202). Studio and workshop courses cannot be used to satisfy this requirement.	ME 401 – Thermo-Fluid Dynamics (3 hours)	ENGR 313 – Materials Science (3 hours)
Social/Behavioral Sciences (6 or 9 hours) * Chosen from Anthropology; Economics; Political science; Psychology; Sociology; Liberal Arts 203/313; Honors 101, 102 (if not being used to fulfill composition requirements).	ME 402 – Elements of Propulsion (3 hours)	ENGR 314 – Materials Science Lab (1 hour)
Humanities (6 or 9 hours) * Chosen from African American studies (AAS 201, 202); Classical civilization; Environmental studies (ENVS 101); Gender studies (G ST 201, 202); History; Liberal Arts 202, 312, 305; Literature (ENG 103, 220-226); Philosophy; Religion; Southern studies 100-level; HON 101, 102 (if not being used to fulfill composition requirements). Students may count up to 3 credit hours of a language course (modern, Greek or Latin) with a grade of C or better to fulfill a humanities requirement.	ME 416 – Structures and Dynamics Lab (1 hour)	ENGR 321 – Thermodynamics (3 hours)
Economics (3 hours) * Econ 310 – Engineering Economy (3 hours)	ME 419 – Energy and Fluids Lab (1 hour)	ENGR 323 – Fluid Mechanics (3 hours)
NOTES * Students must earn a total of 21 credit hours: - 6 hours of Social/Behavioral Sciences - 9 hours of Humanities and Fine Arts (with at least 3 hours in each) - 3 additional hours of Social Science, Humanities, Fine Arts or an approved general studies course - 3 hours of Engineering Economy	ME 426 – Kinematics: Analysis and Synthesis (3 hours)	ENGR 330 – Engineering Systems Analysis (3 hours)
	ME 428 – Dynamics of Machinery (3 hours)	ENGR 360 – Electric Circuit Theory (3 hours)
	ME 438 – Mechanical Engineering Design (3 hours)	ENGR 361 – Electric Circuits Lab (1 hour)
		ENGR 420 – Engineering Analysis III (3 hours)
		ENGR 553 – Heat Transfer (3 hours)
		ELECTIVES (9 hours) Students must take approved 300+ level courses in the School of Engineering: - Thermal/Fluid Elective (3 hours; choose from ME 406, ME 529, or ENGR 551) - Design Elective (3 hours) - Engineering Elective (3 hours)
	SPECIALIZATIONS - Standard track - Manufacturing emphasis (with Center for Manufacturing Excellence)	

DEGREE MAP
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
(EFFECTIVE 2023 – 128 CREDIT HOURS)

YEAR	FIRST SEMESTER	HOURS	SECOND SEMESTER	HOURS
FRESHMAN	First Year Writing I	3	First Year Writing II	3
	Chem 105/115 – General Chemistry I, Lab	4	Chem 106/116 – General Chemistry II, Lab	4
	Math 261 – Calculus I	3	Math 262 - Calculus II	3
	Humanities	3	ME 101 – Introduction to Mechanical Engr.	1
	Humanities	3	Social Science	3
			Social Science	3
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	17
SOPHOMORE	Math 263 – Calculus III	3	Math 264 – Calculus IV	3
	Phys 211/221 – Calc-based Physics, Lab	4	Math 353 – Differential Equations	3
	CSCI 251 – Programming for Engineering	3	Phys 212/222 – Calc-based Physics, Lab	4
	ME 201 – Engineering Graphics	2	ENGR 309 – Statics	3
	Fine Arts	3	ENGR 321 – Thermodynamics	3
	TOTAL CREDIT HOURS	15	TOTAL CREDIT HOURS	16
JUNIOR	Engr 310 – Engineering Analysis I	3	ENGR 323 – Fluid Mechanics	3
	Engr 312 – Mechanics of Materials	3	ME 324 – Introduction to Mechanical Design	3
	ENGR 313 – Materials Science	3	ME 325 – Intermediate Dynamics	3
	ENGR 314 – Materials Science Lab	1	ENGR 361 – Electric Circuit Theory Lab	1
	ENGR 330 – Engineering Systems Analysis	3	ENGR 420 – Engineering Analysis III	3
	Engr 360 – Electric Circuit Theory	3	ECON 310 – Engineering Economy	3
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16
SENIOR	ME 401 – Thermo-Fluid Dynamics	3	ME 402 – Propulsion	3
	ME 416 – Structures and Dynamics Lab	1	ME 419 – Energy and Fluids Lab	1
	ME 426 – Kinematics	3	ME 428 – Dynamics of Machinery	3
	Thermal/Fluid Elective	3	ME 438 – Senior Design	3
	Design Elective	3	ENGR 553 – Heat Transfer	3
	Social Science, Humanities, Fine Arts	3	Engineering Elective	3
	TOTAL CREDIT HOURS	16	TOTAL CREDIT HOURS	16

INFORMATION CONCERNING SCHOOL OF ENGINEERING REQUIREMENTS:

- An overall 2.0 GPA or higher is required in all School of Engineering courses applied toward the degree.
- Refer to the School of Engineering Academics and Admissions section in the catalog for all rules associated with the degree.

INFORMATION CONCERNING GENERAL RULES, REGULATIONS AND MINIMUM REQUIREMENTS

- An overall 2.0 GPA or higher is required on all work attempted at UM, all college work attempted at any institution of higher learning (UM and transfer work), and all coursework submitted toward the degree.
- At least 25% of the hours required for an undergraduate degree must be taken in residence, with at least 12 of the last 21 credit hours completed at UM.
- In addition, at least 30 semester hours of residence credit must be taken in the school or college recommending the degree.
- The limit on the acceptance of credit from a junior or community college is one-half the total requirements for a degree.

Refer to the Undergraduate Academic Regulations section in the catalog for all university degree requirements.