Mechanical Engineering

Department Information

- **Department Location:**
  Dolve Hall 111
- **Department Phone:**
  701-231-8671
- **Department Web Site:**
  www.ndsu.edu/me/
- **Degrees Offered:**
  B.S.M.E.
- **Official Program Curriculum:**
  bulletin.ndsu.edu/undergraduate/program-curriculum/mechanical-engineering/

Mechanical Engineering Major

The Bachelor of Science degree in Mechanical Engineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org. The curriculum is designed to produce baccalaureate-level graduates who are well prepared to accept engineering positions in industry and government or to pursue advanced degree studies.

Mission

The Department of Mechanical Engineering at NDSU will contribute to the aspirations of a land-grant university in the three primary components of education, research, and service. In support of these endeavors the mission of the department is to:

- Educate undergraduate and graduate students in the fundamentals of the discipline, prepare graduates to effectively function in society in the field of their choice, and provide the learning skills to adapt to evolving personal and professional goals.
- Develop and maintain high quality research programs in traditional and emerging areas that build on the diverse strengths of the faculty, foster interdisciplinary collaborations, and address national and global needs.
- Serve the needs of the profession, the state of North Dakota, and regional industries to promote and enhance economic development opportunities.

Educational Objectives

Graduates of the Mechanical Engineering Program will:

1. Provide valuable contributions to the engineering profession in the field of their choice.
2. Adapt to emerging technologies through continued professional development.
3. Uphold high ethical and professional standards in the practice of engineering.
4. Effectively function in a team environment and interact with people of diverse backgrounds.
5. Be engaged and conscientious practitioners who understand the context in which their designs are implemented and the corresponding impact of their activities on society.

A complete listing of the student outcomes associated with these objectives can be viewed on the department's web site (https://www.ndsu.edu/me).

Strong program emphasis is placed on engineering science, laboratory, and design. The use of modern computer tools and techniques in engineering practice also is incorporated throughout the curriculum. In addition, liberal arts education is included to prepare graduates for becoming concerned and productive members of society.

Students transferring into mechanical engineering from other departments or institutions are encouraged to do so no later than the beginning of the junior year if they wish to complete the degree requirements within two academic years.

Graduate programs leading to Master of Science and Doctor of Philosophy degrees in Mechanical Engineering are offered by the department. For more complete details, see the Graduate Bulletin (http://bulletin.ndsu.edu/past-bulletin-archive/2018-19/graduate) online.

Selective Admission

The Department of Mechanical Engineering has a selective admission policy. To be admitted to the basic program (freshman and sophomore level), freshman applicants must either rank in the top one-third of their high school graduating class or have received a score of 26 or higher in the math portion of the ACT (or a score of 590 or higher in the math portion of the SAT). Transfer students, whether from another university or from another department at NDSU, must have an institutional grade point average (GPA) of at least 2.80.

To enter the professional program (junior and senior level), students must complete the basic program with a minimum Engineering GPA of 2.80, a minimum Cumulative GPA of 2.50 and no grades below 'C' in any one of the core courses.

A minimum institutional GPA of 2.50 is required for graduation from Mechanical Engineering. No course grades less than 'C' are acceptable to fulfill a degree requirement.

Curriculum

All Mechanical Engineering majors choose a minimum of five technical elective courses. These courses cover a wide range of topics and students may tailor their choices to reflect their special interests in solid mechanics and design, thermal sciences, energy, materials and nanotechnology, controls and mechatronics, biomedical engineering, aerospace, automotive engineering, or other areas as added in the future. For a complete list of technical electives available in each area, students should consult with their adviser, the department, or the curriculum guide.

Plan of Study

Please note this is a sample plan of study and not an official curriculum. Actual student schedules for each semester will vary depending on start year, education goals, applicable transfer credit, and course availability. Students are encouraged to work with their academic advisor on a regular basis to review degree progress and customize an individual plan of study.

Freshman			
Fall	**Credits**	**Spring**	**Credits**
MATH 165	4	MATH 166	4
ENGL 110	4	ENGL 120	3
CHEM 121	3	CHEM 122	3
Humanities and Fine Arts and Cultural Diversity Gen Ed	3	ME 212	3
Social & Behavioral Science and Global Perspectives Gen Ed	3	ME 221	3
		Wellness Gen Ed	2
	17		18
Sophomore			
Fall	**Credits**	**Spring**	**Credits**
MATH 129	3	MATH 266	3
MATH 259	3	COMM 110	3
IME 330	3	PHYS 252 & 252L	5
ME 222	3	ME 213	3
ME 223	3	ME 351	3
Humanities & Fine Arts Gen Ed	3		
	18		17
Junior			
Fall	**Credits**	**Spring**	**Credits**
ECE 301	3	ECE 303	3
ENGL 321	3	ECE 306	1
ME 331	4	ENGR 402	1
ME 352	3	ME 361	1
Technical Elective	3	ME 442	3
		ME 454	3
		Technical Elective	3
	16		15

Senior			
Fall	**Credits**	**Spring**	**Credits**
ME 421	3	ME 412	3
ME 443	3	ME 462	3
ME 457	3	Technical Elective	3
ME 461	3	Technical Elective	3
Technical Elective	3	Social & Behavioral Science Gen Ed	3
	15		15

Total Credits: 131

Degree Notes:

- Total degree credits required to graduate: 129*
- *Total credits listed above may exceed minimum credit requirements for graduation.