

Mechanical Engineering and Physics

Department Information

- **Department Web Site:**
www.ndsu.edu/me/ (<http://www.ndsu.edu/me/>)
- **Credential Offered:**
B.S.M.E.
- **Sample Program Guide:**
catalog.ndsu.edu/programs-study/undergraduate/mechanical-engineering-physics/ (<http://catalog.ndsu.edu/programs-study/undergraduate/mechanical-engineering-physics/>)

Major Requirements

Major: Mechanical Engineering & Physics

Degree Type: B.S.M.E.

Minimum Degree Credits to Graduate: 136

University Degree Requirements

1. Satisfactory completion of all requirements of the curriculum in which one is enrolled.
2. Earn a minimum total of 120 credits in approved coursework. Some academic programs exceed this minimum.
3. Satisfactory completion of the general education requirements as specified by the university.
4. A minimum institutional GPA of 2.00 based on work taken at NDSU.
5. At least 30 credits must be NDSU resident credits. Resident credits include credits registered and paid for at NDSU.
6. At least 36 credits presented for graduation must be in courses numbered 300 or higher.
7. Students presenting transfer credit must meet the NDSU residence credits and the minimum upper level credit. Of the 30 credits earned in residence, a minimum of 15 semester credits must be in courses numbered 300 or above, and 15 semester credits must be in the student's curricula for their declared major.

For complete information, please refer to the Degree and Graduation Requirements (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/degree-and-graduation/>) section of this Bulletin.

University General Education Requirements

A list of university approved general education courses and administrative policies are available here (<http://catalog.ndsu.edu/academic-policies/undergraduate-policies/general-education/#genedcoursestext>).

Code	Title	Credits
Category C: Communication		12
ENGL 110	College Composition I	
ENGL 120	College Composition II	
COMM 110	Fundamentals of Public Speaking	
Upper Division Writing [†]		
Category R: Quantitative Reasoning [†]		3
Category S: Science and Technology [†]		10
Category A: Humanities and Fine Arts [†]		6
Category B: Social and Behavioral Sciences [†]		6
Category W: Wellness [†]		2
Category D: Cultural Diversity ^{*†}		
Category G: Global Perspectives ^{*†}		
Total Credits		39

*

Courses for category D & G are satisfied by completing D & G designated courses in another general education category.

†

General education courses may be used to satisfy requirements for both general education and the major, minor, and program emphases, where applicable. Students should carefully review major requirements to determine if specific courses can also satisfy these general education categories.

Major Requirements

Mechanical Engineering & Physics Major Requirements

Code	Title	Credits
CHEM 121	General Chemistry I	3
CHEM 122	General Chemistry II	3
ECE 301	Electrical Engineering I	3
ECE 306	Electrical Engineering Lab I	1
ENGL 321	Writing in the Technical Professions	3
ENGR 327	Ethics, Engineering, and Technology (Humanities and Fine Arts Gen Ed)	3
IME 330	Manufacturing Processes	3
MATH 129	Basic Linear Algebra	3
MATH 165	Calculus I	4
MATH 166	Calculus II	4
MATH 265	Calculus III	4
MATH 266	Introduction to Differential Equations	3
ME 111	Introduction to Mechanical Engineering ^{2,3}	2
ME 212	Fundamentals of Visual Communication for Engineers	3
ME 213	Modeling of Engineering Systems	3
ME 221	Engineering Mechanics I	3
ME 222	Engineering Mechanics II	3
ME 223	Mechanics of Materials	3
ME 331	Materials Science and Engineering	4
ME 352	Fluid Dynamics	3
ME 351	Thermodynamics I	3
ME 361	Product Design and Development	3
ME 412	Engineering Measurements	3
ME 421	Theory of Vibrations	3
ME 442	Machine Design I	3
ME 443	Machine Design II	3
ME 454	Heat and Mass Transfer	3
ME 457	Thermal Systems Laboratory	3
ME 461	Design Project I	3
ME 462	Design Project II	3
PHYS 171	Introductory Projects in Physics	1
PHYS 252	University Physics II	4
PHYS 252L	University Physics II Laboratory	1
PHYS 350	Modern Physics ¹	3
PHYS 355	Classical Mechanics ¹	3
PHYS 361	Electromagnetic Theory ¹	3
PHYS 411	Optics for Scientists & Engineers	3
PHYS 411L	Optics for Scientists and Engineers Lab	1
PHYS 485	Quantum Mechanics I	3
PHYS Elective		3
Total Credits		116

1

Mechanical engineering technical electives

2

Students who transfer any 30 or more credits into the program are not required to take ME 111.

3

Students who have completed ABEN 110 or ENGR 111 are not required to take ME 111.

Degree Notes:

- No grade less than 'C' is accepted to fulfill any of the degree requirements.
- Admission to the dual major requires a minimum 2.70 GPA
- A 2.50 cumulative GPA is required for graduation.