

Mechanical Engineering and Physics

Department Information

- **Department Web Site:**
www.ndsu.edu/me/ (<http://www.ndsu.edu/me/>)
- **Credential Offered:**
B.S.M.E.
- **Official Program Curriculum:**
catalog.ndsu.edu/undergraduate/program-curriculum/mechanical-engineering-physics/ (<http://catalog.ndsu.edu/undergraduate/program-curriculum/mechanical-engineering-physics/>)

Engineering and physics are closely related disciplines. Mechanical engineering combines engineering physics and applied mathematics with materials science to design mechanical systems and novel materials. It requires knowledge of core areas of physics, such as mechanics, thermodynamics, theory of elasticity, electricity and magnetism. Modern materials science requires understanding of quantum physics. Therefore, the demand is growing for engineers with multidisciplinary training that includes both fundamental knowledge of physics and practical problem-solving skills.

The Mechanical Engineering and Physics double major program is designed to allow students to complete the core requirements of both majors in a four-year degree. Graduates of the program will have a unique background qualifying them to work in industry or to pursue graduate studies in engineering, physics or related fields of science and technology. One degree is awarded for this major but both mechanical engineering and physics majors are listed under the Bachelor of Mechanical Engineering Degree (B.S.M.E) on the transcript.

Sample Program Guide

IMPORTANT DISCLAIMER: This guide is not an official curriculum. This guide is a sample four-year degree plan of how students might plan this major with other degree requirements to complete their education in four years. Student plans will vary from this sample due to a variety of factors, such as, but not limited to, start year, education goals, transfer credit, and course availability. To ensure proper degree completion, enrolled students should utilize Degree Map (<https://www.ndsu.edu/registrar/degreemap/>) and Schedule Planner (<https://www.ndsu.edu/onestop/degree-map-and-planning/>) in Campus Connection and consult regularly with academic advisors to ensure graduation requirements are being met.

Freshman			
Fall	Credits	Spring	Credits
MATH 165		4 MATH 166	4
ENGL 110 (or placement)		3 ENGL 120	3
CHEM 121		3 CHEM 122	3
ME 111		2 ME 212	3
PHYS 171		1 ME 221	3
Gen Ed Humanities & Fine Arts		3 Gen Ed Wellness	2
		16	18
Sophomore			
Fall	Credits	Spring	Credits
MATH 129		3 MATH 266	3
MATH 265		4 COMM 110	3
IME 330		3 PHYS 252	4
ME 222		3 PHYS 252L	1
ME 223		3 ME 213	3
		ME 351	3
		16	17
Junior			
Fall	Credits	Spring	Credits
ENGL 321		3 ECE 301	3
ME 331		4 ME 361	3

ME 352	3	ME 442	3
PHYS 355 (ME Tech Elective)	3	ME 454	3
PHYS 411	3	PHYS 350 (ME Tech Elective)	3
PHYS 411L	1	PHYS 361 (ME Tech Elective)	3
	17		18
Senior			
Fall	Credits	Spring	Credits
ECE 306		1 ME 412	3
ME 443		3 ME 462	3
ME 457		3 ME 421	3
ME 461		3 Physics Elective	3
PHYS 485		3 Gen Ed Social & Behavioral Science	3
Gen Ed Social/Behavioral Sci & Global Perspect		3 ENGR 327	3
	16		18

Total Credits: 136

Degree Notes:

- Students who transfer any 30 or more credits into the program are not required to take ME 111.
- No grade less than 'C' is accepted to fulfill any of the degree requirements.
- Admission to the Mechanical Engineering Professional program requires a minimum 2.70 engineering GPA and a minimum 2.50 cumulative GPA.
- A 2.50 cumulative GPA is required for graduation.