Mechanical Engineering, BSME

Description:

The Mechanical Engineering program is a curriculum comprising a foundational base which includes basic sciences such as physics, computer science, chemistry, and communication, both oral and written.

Extensive experience with laboratories and computers are provided by modern facilities within the area.

The whole experience accounts for a sophomore-level cornerstone course at the beginning and a senior-level capstone course to cap it off – no pun intended.

Students will come out of the program retaining the necessary skills to have a successful future in engineering, including entrepreneurship, leadership, critical teamwork skills, communication skills, and practical hands-on experience.
Students may choose to further involve themselves with 12 credit hours of professional electives with math, engineering, or science.

Course titles/major courses available:

Fall, 3rd year:
ME 26300 - Introduction To Mechanical Engineering Design, Innovation And Entrepreneurship

Spring, 3rd year:
ME 30900 - Fluid Mechanics

Fall, 4th year:
ME 31500 - Heat And Mass Transfer

Plan of Study information

Is this major math intensive?
Yes – as with any STEM oriented field, it's best to expect the frequent use of mathematics, especially for the engineering courses.

How many science classes?
What science classes are important? The program is not very science intensive, seeing as it is mostly composed of engineering courses.

Is a foreign language required?
Through what level? No foreign language is required, but an elective course called World/Cultural Elective that accounts for 3.00 credit hours is mentioned.

Students who may take an interest in this major

Any student who would like to go into the foundations of mechanical engineering would love this major.

Students who are interested in seeking a career based on power-using machines, such as refrigerators or air conditioning systems might find interest in this program, for one.

The program includes specific courses on heat transfer and control systems – both very important as background knowledge for a job dealing with power-using machines.

Future mechanical engineers designing power-producing machines may also find this course to be most useful and applicable.

In the design process of internal combustion engines or electrical generators, for example, there must be an understanding of mechanical engineering design and machine design, both courses provided through the program.

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Additional insights
The School of Mechanical Engineering includes a broad variety of scholarship options to enhance communication and teamwork skills, as well as a professional practice program with industries or governmental organizations.

Additionally, they include an honors program for students who excel as undergraduates, and options for studying abroad.

There's plenty of choice involved with the program, including scholarship options, overall course decisions, internship opportunities, etc.
There are quite a few electives students can choose from.

There are no minors or certificates required for this major.

Post grad info
After earning a degree in mechanical engineering, there are a multitude of options for occupations. These include the following: aerospace engineer, auto mechanic, architect, materials engineer, software developer, systems management, etc.

Students in mechanical engineering do not typically attend graduate school.

Teaching style
The program seems to have a good mix of both lab classes and lecture type classes.
The lab classes account for any hands-on experience a student needs going into mechanical engineering, like engineering or science related courses. Other courses, such as communications and math-oriented classes, may depend on a teaching style that involves lecturing.

CODO Requirements - To move into this class, you are required a minimum of 1 semester. Class and GPA requirements include a 3.4 or better with a minimum of 12 credit hours in the following:

MA 26100 or MA 26200 or MA 26500/MA 26600
PHYS 24100 or PHYS 27200
ENGR 200-level discipline courses (ex. ECE 20100, CE 29800, AAE 20300, AAE 25100, ME 20000, ME 27000, etc)

You may set up an appointment to transfer at meundergrad@purdue.edu.

The advising website is also an option:
https://engineering.purdue.edu/ME/Undergraduate

Focusing on mathematics is a crucial element of the process pertaining to a transfer from Exploratory Studies to Mechanical Engineering.

Required courses for First Year Engineering in the fall semester include:

CHM 11500 - General Chemistry
ENGR 13100 - Transforming Ideas To Innovation I
MA 16100 - Plane Analytic Geometry And Calculus I
MA 16500 - Analytic Geometry And Calculus I
Written Communication Selective or
Oral Communication Selective