

ENGINEERING MECHANICS

The Department of Mechanical Engineering offers an undergraduate certificate program in the area of Engineering Mechanics. The program is based on the elective courses of the bachelor of science in engineering degree in mechanical engineering (BSE-ME) program regularly offered by the Department of Mechanical Engineering. The earned credit hours can be applied simultaneously to the certificate program and an undergraduate degree program at the University of Michigan - Dearborn.

The program can be completed entirely on campus, with some courses occasionally offered in the asynchronous online mode.

The Engineering Mechanics certificate is an area of mechanical engineering, which combines the principles of structural mechanics, dynamics, and vibrations with methods of computational analysis and modern applications in automotive and other industries. The certificate program offers undergraduate students the opportunity to deepen their understanding and receive official recognition in the field.

Only courses completed with grade B or better will be counted toward the certificate. A minimum certificate grade point average of 3.0 is required to obtain the certificate.

Certificate Requirements

The certificate program requires a minimum of 9 credit hours.

Code	Title	Credit Hours
Select a minimum of 9 credit hours from the following:		
ME 410	Finite Element Methods with Application	3
ME 4191	Structural Mech & Design	4
ME 440	Intro to Mechanical Vibrations	3
ME 445	Sound and Noise Controls	4
ME 4461	Mech Vibration & Noise Control	4
ME 4550	Computational Uncertainty Quantification for Engineering Applications	3
BENG 370	Biomechanics I	4
BENG 470	Advanced Biomechanics	3

Notes:

1. Up to 4 credit hours can be transferred from a degree-granting program at another institution.
2. Pass/fail courses are not allowed.
3. All applicable credits earned in the certificate program can be applied toward one University of Michigan – Dearborn degree program.
4. Credits earned in the certificate program cannot be applied toward another certificate program.