

# ENERGY AND SUSTAINABILITY

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The Department of Mechanical Engineering offers an undergraduate certificate program in the area of Energy and Sustainability. 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.

Energy efficiency and sustainability are critically important in all applications of mechanical engineering. The certificate program offers undergraduate students the opportunity to deepen their understanding of energy and sustainability 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
<b>Select a minimum of 9 credit hours from the following:</b>		
ME 4202	Design Turbo. and Wind Gen.	4
ME 423	Thermal Sys Des & Optimization	4
ME 4301	Computational Thermo-Fluids	3
ME 4361	Design of HVAC Systems	4
ME 4471	Solar Energy Sys Analy&Design	4
ME 452	Sustainable Energy & Environment	4
ME 493	Advanced Vehicle Energy Systems	3
ME 496	Internal Combustion Engines I	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.