

## Advanced Manufacturing Engineering Certificate in Mechanical Engineering

Manufacturing is Northeast Indiana’s largest sector, involving over 70,000 jobs. Moreover, according to the *In-demand Career Report* by the IPFW Community Research Institute (2016), mechanical and industrial engineers are among the top careers in Northeast Indiana with over 100+ openings projected annually and the majority of those positions related to manufacturing.

Over time, the manufacturing sector has undergone significant changes with a current emphasis on “advanced manufacturing” stressing innovation and employing state-of-the-art technologies. The mechanical engineering program now offers a six-course (18-credit hour) certificate in advanced manufacturing engineering comprised of the following four required courses:

- IET 20400 – Techniques of Maintaining Quality
- ME 43200 – Manufacturing Processes
- ME 48000 – Finite Element Analysis
- MET 33500 – Basic Machining

and two of the following elective courses\*

- IET 47800 – Lean Manufacturing and Design
- TECH 57400 – Advanced Quality Engineering Methods
- ME 54600 – CAD/CAM Theory and Advanced Applications
- SE 55000 – Advanced Manufacturing Systems and Processes
- STAT 51100 – Statistical Methods



This curriculum provides students a broad foundation in fundamental manufacturing processes, techniques, and principles as well as exposing students to advanced technologies and stressing the integration of new tools into manufacturing processes to raise productivity and enhance value.

Mechanical engineering students<sup>†</sup> interested in a credential to prepare for a career in advanced manufacturing, to update manufacturing expertise, or to move into manufacturing management should consider this certificate.

For more information contact Dr. Don Mueller ([don.mueller@ipfw.edu](mailto:don.mueller@ipfw.edu)).

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\* With approval of the mechanical engineering curriculum committee, course substitution may be permitted.

<sup>†</sup> Students graduating with a BSME at IPFW would need only two extra courses to get this certificate. The other four courses could count for the four technical elective courses required for the BSME degree.

# Certificate Application



## Advanced Manufacturing Engineering Certificate in Mechanical Engineering

Name: \_\_\_\_\_

Purdue ID: \_\_\_\_\_

Email: \_\_\_\_\_

Credit hours completed on the BSME bingo sheet: \_\_\_\_\_ GPA: \_\_\_\_\_

Note: Please attach a copy of your academic transcript.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Consult the undergraduate bulletin for certificate program requirements.

Submit application to Don Mueller ([don.mueller@ipfw.edu](mailto:don.mueller@ipfw.edu)) in ET 321J.

For department use only:

Required Courses	Semester	Grade
IET 20400 – Techniques of Maintaining Quality		
ME 43200 – Manufacturing Processes		
ME 48000 – Finite Element Analysis		
MET 33500 – Basic Machining		
<b>Elective Courses (must select at least two)</b>		
IET 47800 – Lean Manufacturing and Design		
TECH 57400 – Advanced Quality Engineering Methods		
ME 54600 – CAD/CAM Theory and Advanced Applications		
SE 55000 – Advanced Manufacturing Systems and Processes		
STAT 51100 – Statistical Methods		
<b>Approved Substitution Course</b>		

Approved by: \_\_\_\_\_

Date: \_\_\_\_\_