

INDUSTRIAL PRACTICES CERTIFICATE

Ferris State University
College of Technology
Manufacturing Department

Why might someone want to earn the Industrial Practices Certificate?

Modern industry relies upon employees with broad backgrounds in manufacturing engineering-related topics, whether they hold the title of “manufacturing engineer” or not. Employee expertise in areas such as standardized work, lean manufacturing, statistical analysis, automation, and plant layout techniques are essential to the success of any industrial company, and students entering the job market with experience in these topics enjoy a competitive advantage in the marketplace.

Ferris State University students will want to complete the Industrial Practices Certificate series in order to expand- and document their industry-related skill sets beyond those developed from courses just within their majors. Specific populations who would benefit by adding the Industrial Practices Certificate to their list of credentials include:

- Students in specific manufacturing process-oriented majors (e.g., Welding-, Plastics-, and Rubber Engineering Technology, etc.). The Industrial Practices Certificate will make these students less vertically-oriented, and more resistant to being “pigeon-holed” in one small area as nothing more than a single-subject matter expert.
- Students in industrial design-oriented majors (e.g., Electrical/Electronics-, Mechanical-, Automotive-, and Product Design Engineering Technology, etc.). Companies recognize the advantages of simultaneous engineering when designing products and services, and candidates for design positions who have an understanding of design for manufacturability, industrial operations and capabilities, etc., will enjoy a competitive advantage over those who do not.
- Students in industrial management-oriented majors (e.g., Quality Engineering Technology, Operations & Supply Management, etc.). Industrial managers are responsible for overseeing the activities addressed in the Industrial Practices course set. A manager familiar with concepts beyond just the terminology used will be able to more effectively communicate with the various constituencies involved in industrial operations.

In addition, students in other majors (e.g., construction management, health care administration, hospitality management, etc.) may also benefit from an Industrial Practices Certificate, as traditionally manufacturing-oriented topics such as lean, six sigma, and standardized work find wider application in non-manufacturing sectors.

What courses are required?

The four courses in the Industrial Practices certificate series are open to any junior in a manufacturing-related program, or with an advisor’s permission. The topics covered by these courses are among those most frequently requested by companies for continuing education and training for their employees.

Required Courses

Course	Name	Prerequisites	Credits
MFGE 351	Intro to Industrial Engineering	no prerequisites	3
MFGE 353	Statistical Quality Control	one of the following - MATH 115, MATH 116, minimum ACT score of 24, or minimum SAT score of 560	3
MFGE 354	Lean Manufacturing Concepts & Practices	MFGE 311 or MFGE 351	3
MFGE 451	Intro to Plant Engineering	no prerequisites	3

Total credits required 12

A 2.50 GPA is required in the certificate program, with no grade lower than **C**.