



INDIANA**TECH**

Let Indiana Tech help you take your associate degree to another level.

We make it easy to build upon your Ivy Tech associate degree to earn a bachelor's degree. Find out exactly which classes you need to take on the back of this information sheet.

Indiana Tech will help you financially as well. If you graduated from Ivy Tech after 2010 and have a minimum cumulative GPA of 2.5, you are eligible for the Ivy Tech Merit Scholarship, which will result in a 20 percent reduction in tuition.

USE THIS -----

Associate of Science in Engineering Technology

TO ACHIEVE THIS -----

Bachelor of Science in Industrial and Manufacturing Engineering

Program Overview

A bachelor's degree in industrial and manufacturing engineering prepares you to plan and implement procedures that increase quality, efficiency and safety in a wide range manufacturing settings. You will learn not only how to solve production problems, but you will also take business courses to become an entrepreneur or to advance to management in an organization.

Industrial and manufacturing engineers are sought-after professionals who are crucial in planning workflow to ensure the most efficient use of resources. They devise methods to resolve production problems, maximize product quality, and minimize cost. Through your coursework, you will learn about the entire process of improving operations, including topics such as safety, equipment management, material selection and employee motivation, as well as the use of tools such as computer drafting tools, simulation programs, analytics and mathematics to aid in making decisions.

Graduates with this degree have pursued careers in the following fields:

- Transportation and Logistics
- Professional, Scientific and Technical Services
- Computer and Electronic Product Manufacturing
- Machinery Manufacturing
- Technical Sales

TRANSFER CREDITS

| THESE IVY TECH COURSES | | | FULFILL | THESE INDIANA TECH REQUIREMENTS | | |
|---|-------------------------------------|---|------------|--|----|----|
| Associate of Science Degree in Engineering Technology | | | | Bachelor of Science Degree in Industrial and Manufacturing Engineering | | |
| Written Communication | | | | | | |
| ENGL 111 | English Composition | 3 | ENG 1252 | Argumentative Writing | | 3 |
| Speaking and Listening | | | | | | |
| COMM 101 | Fundamentals of Public Speaking | 3 | EGR 2000 | Engineering Communications | | 3 |
| Quantitative Reasoning | | | | | | |
| MATH 136 | College Algebra | 3 | MA 1030 | Applied Algebra | | 3 |
| MATH 137 | Trigonometry with Analytic Geometry | 3 | MA 1055 | Applied Trigonometry | | 3 |
| MATH 221 | Calculus for Technology I | 3 | MA 1100 | Applied Calculus I | | 3 |
| Scientific Ways of Knowing | | | | | | |
| PHYS 101 | Physics I | 4 | PH 1100 | Fundamentals of Physics | | 3 |
| PHYS 102 | Physics II | 4 | PH 2100 | Fundamentals of Physics II | | 3 |
| Social and Behavioral Ways of Knowing | | | | | | |
| SOCI 111 | Introduction to Sociology | 3 | SS 2800 | Introduction to Sociology | | 3 |
| Humanistic and Artistic Ways of Knowing | | | | | | |
| PHIL 102 | Introduction to Ethics | 3 | HUM EL | Humanities Elective | | 3 |
| ENGL 206 | Introduction to Literature | 3 | HUM LIT EL | Humanities Literature Elective | | 3 |
| Institutional Requirements | | | | | | |
| IVYT 111 | Student Success in Technology | 1 | | | | |
| ENGT 279 | Portfolio Preparation | 2 | | | | |
| Program/Technical Core | | | | | | |
| ENGT 120 | Engineering Concepts & Technology | 3 | EGR 1710 | Engineering Graphics & Design | | 3 |
| EECT 111 | Introduction to Circuit Analysis | 4 | Tech EL | Technical Elective | | 3 |
| EECT 112 | Digital Fundamentals | 3 | APP EL | Approved Elective | | 3 |
| EECT 128 | Intro to C Programming | 3 | CS 1250 | Problem Solving for Programmers | | 3 |
| METC 111 | Statics | 3 | EM 2040 | Applied Statics | | 3 |
| METC 107 | Mechanical Design & Documentation | 3 | IME 3020 | Computer Simulation of MFG Processes I | | 3 |
| METC 143 | Materials & Processes | 3 | EGR 2600 | Materials Science | | 3 |
| METC 220 | CAD for Mechanical Design | 3 | EGR 3600 | CAD I - Parametric Model | | 3 |
| | | | | | 60 | 51 |

IN ADDITION TO FULFILLING THE COURSE REQUIREMENTS ABOVE, YOU MUST COMPLETE THE FOLLOWING INDIANA TECH COURSES TO ACHIEVE A BACHELOR OF SCIENCE IN INDUSTRIAL AND MANUFACTURING ENGINEERING:

| | | | | | | |
|-----------|---------------------------------------|---|----------|--|--|------------|
| BA 1200 | Foundations in Business | 3 | IME 4020 | Lean Manufacturing | | 3 |
| BA 2010 | Principles of Management | 3 | IME 2010 | Safety Engineering | | 3 |
| OL 3400 | Financial Systems for Decision Making | 3 | IME 3060 | Advanced Computer Integrated Manufacturing | | 3 |
| ENG 1272 | Analytical Writing | 3 | EGR 4400 | Professional Practice | | 3 |
| ECON 2200 | Macroeconomics | 3 | IME 4975 | IME Senior Project | | 4 |
| PSY 1700 | Introduction to Psychology | 3 | HUM EL | Humanities Elective | | 3 |
| CH 1000 | Fundamentals of Chemistry | 3 | IME 2020 | Work Design | | 3 |
| EGR 3430 | Applied Probability & Statistics | 3 | EGR 2650 | Manufacturing Processes | | 3 |
| IME 2110 | Six Sigma I | 3 | IME 4300 | Integrated Resource MGT | | 3 |
| IME 3110 | Six Sigma II | 3 | IME 3040 | Computer Integrated MFG | | 4 |
| IME 3120 | Six Sigma III | 3 | MA 1110 | Applied Calculus II | | 3 |
| IME 4110 | Six Sigma IV | 3 | IME 4950 | Internship | | 3 |
| EGR 3430 | Applied Probability & Statistics | 3 | | | | 35 |
| EGR 4400 | Professional Practice | 3 | | | | 122 |