



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	COMM 1400	Public Communication (APP EL)*		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 3710	Ethics (HUM EL)		3
ENGL 206	Introduction to Literature	3	HUM LIT	Humanities Literature Elective		3
Other Institutional Requirements						
IVYT 111	Student Success	1		N/C		0
ENGT 279	Portfolio Preparation	2		N/C		0
Program/Technical Core						
ENGT 120	Engineering Concepts & Technology	3	EGR 1710	Engineering Graphics & Design		3
EECT 111	Introduction to Circuit Analysis	4	APP 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 Manufacturing 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
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**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:**

ENG 1272	Analytical Writing	3	EGR 2000	Engineering Communication		3
HUM EL	Humanities Elective	3	PSY 1700	Introduction to Psychology		3
ECON 2200 or ECON 2210	Macroeconomics or Microeconomics	3	CH 1000	Fundamentals of Chemistry		3
EGR 3430	Applied Probability & Statistics	3	BA 1200	Foundations of Business		3
BA 2010	Principles of Management	3	EGR 2650	Manufacturing Processes		3
EGR 4400	Professional Practice	3	IME 2010	Safety Engineering		3
IME 2020	Work Design	3	IME 2110	Six Sigma I		3
IME 3040	Computer Integrated Manufacturing	4	IME 3060	Advanced Computer Integrated Manufacturing		3
IME 3110	Six Sigma II	3	IME 3120	Six Sigma III		3
IME 4020	Lean Manufacturing	3	IME 4110	Six Sigma IV		3
IME 4300	Integrated Resource Management	3	IME 4975	IME Senior Project		4
MA 1110	Applied Calculus II	3	OL 3400	Financial Systems for Decision-Making		3
EGR 4950	Engineering Internship	3				122

\* = not needed in the current degree program