

# Bachelor of Industrial Engineering

## Professional Occupations

- Industrial Engineer
- Manufacturing Engineer
- Quality Engineer
- Human Factors Engineer
- Supply Chain Planner
- Management Engineer
- Process Engineer

## Program Overview

Engineering systems may be modelled as interaction between subsystems such as machines, software and people. Such interactions are made of different flows of energy, materials and data. Industrial Engineering is about arranging subsystems and their interactions so they work more effectively and efficiently. Industrial engineers design systems and processes and optimize existing ones in order to improve quality, productivity and worker's safety. They work to eliminate waste of time, material, energy, and make good use of available capital like human and financial resources. While other engineers work on building systems, Industrial engineers work on making them better. Industrial engineering education is a fertile fusion between the engineering and business realms, and hence it provides opportunities to work in different fields including but not limited to: supply chain and logistics, healthcare, manufacturing, banking and financial institution and information technology.

## Competitive Edge

Highly competitive world market enforces companies to continuously adopt new management philosophies to stay in business. Globalization makes the pressure even higher. The demand for industrial engineering profession is increasing rapidly where productivity and quality are the main drivers to gain a competitive edge. Industrial engineering term is not just about manufacturing as the term implies, it also comprises service industries such as shipping and logistics, healthcare, banks and government agencies. At Alfaisal University, our industrial engineering program offers students the latest industrial engineering practices. Our curriculum is developed and benchmarked with well-known western universities in the industrial engineering field. We continue to recruit outstanding faculty members and the majority of our staff are western graduates. We are proudly experiencing our success by having the majority of our graduates currently employed by top private companies and government agencies in the Kingdom.



Engineering  
Accreditation  
Commission

ABET Accredited Program

## Track & Minor

Optional track & minor are available for students in the areas of:

- Digital Design & Manufacturing Track
- Mechanical Engineering Minor

Students will be able to tailor their senior-level technical electives to study new emerging technologies in these areas. In addition, students have the option to take a minor in Mechanical Engineering by taking additional 15 CRHs on top of current study plan. More details are available on the department's website.

## Collaborators



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**Alfaisal University**  
 Bachelor of Industrial Engineering | Study Plan Summary | Effective Fall 2024

**4-Year Curriculum:** 142 Credit Hours Total

**Freshman Year - Fall Semester**

Course Code	Course-Title	CRHs
CHM 102	Introduction to Chemistry	3
CHM 102 L	Introduction to Chemistry Lab	1
MAT 101	Calculus I	3
PHU 103	Mechanics and Waves for Engineers	3
PHU 103 L	Mechanics and Waves for Engineers Lab	1
ENG 101	University Writing	3
ARB 101	Arabic Language and Literature I	2
	<b>Total</b>	<b>16</b>

**Sophomore Year - Fall Semester**

Course Code	Course-Title	CRHs
ME 203	Applied Mechanics I: Statics	3
ME 205	Introduction to Computer Aided Design	3
ME 305	Manufacturing and Workshop Training	3
ME 305 L	Manufacturing and Workshop Training Lab	1
MAT 211	Calculus III	3
MAT 212	Linear Algebra	3
MAT 213	Differential Equations	3
	<b>Total</b>	<b>19</b>

**Junior Year - Fall Semester**

Course Code	Course-Title	CRHs
IE 301	Operations Research I	3
IE 304	Production and Service Systems Planning I	3
IE 307	Work Systems Analysis & Design	3
IE 307 L	Work Systems Analysis & Design Lab	1
IE 309	Human Factors and Ergonomics	3
IE 309 L	Human Factors and Ergonomics	1
ENG 222	Technical Writing	3
ISL 101	Islamic Studies I	2
	<b>Total</b>	<b>19</b>

**Junior Year - Summer Semester**

Course Code	Course-Title	CRHs
IE 390	Industrial Engineering Summer Internship	0
	<b>Total</b>	<b>0</b>

**Senior Year - Fall Semester**

Course Code	Course-Title	CRHs
IE 401	Network Models and Project Management	3
IE 415	Production Information Systems	3
IE 4 __	Technical Elective	3
IE 4 __	Technical Elective	3
IE 495	Industrial Engineering Capstone Project I	3
-----	General Education Elective I	2
	<b>Total</b>	<b>17</b>

**Freshman Year - Spring Semester**

Course Code	Course-Title	CRHs
SE 100	Programming for Engineers	3
SE 100 L	Programming for Engineers Lab	1
ME 201	Material Science and Engineering	3
ME 201 L	Material Science and Engineering Lab	1
MAT 112	Calculus II	3
PHU 124	Electromagnetism and Optics for Engineers	3
PHU 124 L	Electromagnetism and Optics for Engineers Lab	1
ENG _ _ _	English Elective	3
	<b>Total</b>	<b>18</b>

**Sophomore Year - Spring Semester**

Course Code	Course-Title	CRHs
EE 207	Foundations of Electrical Engineering	3
EE 207 L	Foundations of Electrical Engineering Lab	1
ME 206	Thermal Fluids Engineering I	3
ME 206 L	Thermal Fluids Engineering I Lab	1
ME 208	Mechanics of Materials I	3
ME 208 L	Mechanics of Materials I Lab	1
MAT 224	Numerical Methods	3
STA 212	Probability and Statistics for Engineers	3
	<b>Total</b>	<b>18</b>

**Junior Year - Spring Semester**

Course Code	Course-Title	CRHs
IE 302	Operations Research II	3
IE 305	Production and Service Systems Planning II	3
IE 315	Engineering Economy and Cost Analysis	3
IE 330	Simulation	3
IE 330 L	Simulation Lab	1
ME 308	Advanced Manufacturing Processes	3
ME 308 L	Advanced Manufacturing Processes Lab	1
	<b>Total</b>	<b>17</b>

**Senior Year - Spring Semester**

Course Code	Course-Title	CRHs
IE 406	Quality Engineering	3
IE 450	Management for Engineers	3
IE 4 __	Technical Elective	3
IE 496	Industrial Engineering Capstone Project II	3
ME 306	Instrumentation and Control Engineering	3
ME 306 L	Instrumentation and Control Engineering Lab	1
-----	General Education Elective II	2
	<b>Total</b>	<b>18</b>

Taming technology and disseminating knowledge is what we do. Engineering innovative software to make the world better IS WHAT YOU'LL DO.