

ENGINEERING (BSE)

Bachelor of Science in Engineering

- Cornerstone Core Requirements
- Engineering Core Requirements
 - Cognates (p. 1)
- Required Concentration (choose one)
 - Mechanical Engineering (p. 1)
 - Environmental
 - Engineering Management
 - Design and Innovation
 - Data Science

Engineering Cognates

Code	Title	Hours
CHM-111	PRIN GENERAL CHEMISTRY ¹	4
MAT-131	CALCULUS I ¹	4
MAT-132	CALCULUS II ¹	4
MAT-234	MULTIVARIATE CALCULUS ¹	4
MAT-235	DIFFER EQUAT & LINEAR ALG - ENGINEERS ¹	4
MAT-251	PROBABILITY & STATISTICS ¹	3
PHY-221	PHYSICS FOR SCI & ENGINEERS I ¹	5
PHY-222	PHYSICS FOR SCI & ENGINEERS II ¹	5
Total Hours		33

Engineering Core

Code	Title	Hours
EGR-100	INTRO TO ENGINEERING ¹	1
EGR-111	INTRO TO ENGINEERING GRAPHICS ¹	1
EGR-112	INTRO PROGRAMMING USING C++ ¹	2
EGR-113	INTRO TO CAD/CAM ¹	1
EGR-185	FIRST YEAR ENGINEERING DESIGN ¹	2
EGR-209	MECHANICS AND MACHINES ¹	4
EGR-214	CIRCUIT ANALYSIS I ¹	3
EGR-215	CIRCUITS LAB ¹	1
EGR-220	MEASUREMENT & DATA ANALYSIS ¹	1
EGR-226	INTRODUCTION TO DIGITAL SYSTEMS ¹	3
EGR-227	DIGITAL SYSTEMS LAB ¹	1
EGR-250	MATERIALS SCIENCE & ENGINEERING ¹	3
EGR-251	MATERIALS LAB ¹	1
EGR-309	MACHINE DESIGN I ¹	3
EGR-310	MACHINE DESIGN I LAB ¹	1
EGR-312	DYNAMICS	3
EGR-330	PRODUCT DVLPT/PROJECT MGMT	4
EGR-360	THERMODYNAMICS	3
EGR-380	INTERNSHIP (Two experiences - 3 credits each)	6
EGR-485	CAPSTONE PROJ & ETHICS I	3
EGR-486	CAPSTONE PROJ & ETHICS II	3
Total Hours		50

¹ Foundation course

Concentrations (Choose one)

Mechanical Engineering

Code	Title	Hours
ECN-232	PRINCIPLES OF MICROECONOMICS	3
EGR-350	VIBRATION	3
EGR-365	FLUIDS	3
EGR-367	MANUFACTURING PROCESSES	3
EGR-368	MANUFACTURING PROCESSES LAB	1
EGR-409	MACHINE DESIGN 2	3
EGR-440	PRODUCTION MODELS	3
EGR-468	HEAT TRANSFER	3
Total Hours		22

Environmental

Code	Title	Hours
ECN-232	PRINCIPLES OF MICROECONOMICS	3
BIO-151	GENERAL BIOLOGY	4
CHM-212	PRINCIPLES OF ORGANIC & BIOCHEM	4
ECO-241	ENVIRONMENTAL SCIENCE	4
ECO-341	ECOLOGY	4
EGR-365	FLUIDS	3
EGR-437	ENVIRONMENTAL ENGINEERING	4
Total Hours		26

Engineering Management

Code	Title	Hours
ACC-221	ACCOUNTING I	3
ACC-222	ACCOUNTING II	3
ECN-232	PRINCIPLES OF MICROECONOMICS	3
EGR-367	MANUFACTURING PROCESSES	3
EGR-368	MANUFACTURING PROCESSES LAB	1
EGR-440	PRODUCTION MODELS	3
MGT-231	PRIN OF MANAGEMENT	3
Choose two of the following:		6
FIN-341	PRINCIPLES OF FINANCE	
MGT-333	OPERATIONS & SUPPLY CHAIN MGT	
MGT-335	ORGANIZATIONAL BEHAVIOR	
MGT-337	ENTREPRENEURSHIP	
MGT-339	INTERNATIONAL MANAGEMENT	
MKT-251	PRINCIPLES OF MARKETING	
Total Hours		25

Design and Innovation

Code	Title	Hours
ECN-232	PRINCIPLES OF MICROECONOMICS	3
EGR-367	MANUFACTURING PROCESSES	3
EGR-368	MANUFACTURING PROCESSES LAB	1
CRI-202	CREATIVITY IN THE CONCEPTUAL AGE	3
CRI-205	STRATEGIES INNOVATIVE THOUGHT & DESIGN	3
CRI-312	SCIENCE OF HUMAN INNOVATION	3

CRI-313	STRATEGIES FOR INNOVATION AND DESIGN II	3
CRI-413	STRATEGIES FOR INNOVATION & DESIGN III	3
Total Hours		22

Data Science

Code	Title	Hours
ECN-232	PRINCIPLES OF MICROECONOMICS	3
CSC-131	INTRO PROGRAMMING USING PYTHON	3
CSC-216	DATABASE MGT SYSTEMS	3
DAT-344	INTRO TO DATA MINING	3
DAT-444	STRATEGIC DATA MODELING	3
EGR-367	MANUFACTURING PROCESSES	3
EGR-368	MANUFACTURING PROCESSES LAB	1
MAT-402	MATHEMATICAL SCIENCE SEMINAR I	3
MAT-403	MATHEMATICAL SCIENCE SEMINAR II	3
Total Hours		25

Engineering Academic Policies

The purpose of monitoring academic status is to notify the student of his/her academic standing and provide additional support and guidance that will enable the student to improve his/her academic performance and successfully complete the BSE degree.

Upon completion of the Engineering Foundation Courses, the Engineering program requires a secondary admission application. **Admission is required prior to taking upper division courses (300 and 400 level courses).**

Applicants for Secondary Admission must meet the following:

1. Combined GPA of 2.7 or above in the Engineering Foundation Course sequence.
2. Completion of each course in the Engineering Foundation Course sequence with a grade of C (2.0) or above. Foundation courses may only be taken twice.
3. Completion of ENG-212 WRITING IN CULTURE with a C (2.0) or above.