

ENGINEERING WITH A MECHANICAL ENGINEERING CONCENTRATION (BSE)

The following requirements are in addition to the Bachelor of Science in Engineering core requirements, found here (<https://catalog.cornerstone.edu/undergraduate/cornerstone-core/>). (does not require a minor)

REQUIRED COURSES

Engineering Core Courses

Code	Title	Hours
CHM-111	PRIN GENERAL CHEMISTRY ¹	4
MAT-131	CALCULUS I ¹	5
MAT-132	CALCULUS II ¹	5
MAT-234	MULTIVARIATE CALCULUS ¹	3
MAT-235	DIFFER EQUAT & LINEAR ALG - ENGINEERS ¹	3
MAT-251	PROBABILITY & STATISTICS ¹	3
PHY-221	PHYSICS FOR SCI & ENGINEERS I ¹	5
PHY-222	PHYSICS FOR SCI & ENGINEERS II ¹	5
EGR-100	INTRO TO ENGINEERING ¹	1
EGR-111	INTRO TO ENGINEERING GRAPHICS ¹	1
EGR-112	APPLIED PROGRAMMING FOR ENGINEERS 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-380	INTERNSHIP (minimum two experiences)	6
EGR-485	CAPSTONE PROJ & ETHICS I	1
EGR-486	CAPSTONE PROJ & ETHICS II	2
Choose one of the following:		3-4
EGR-345	DYNAMIC SYSTEM MODELING & CONTROL	
EGR-312	DYNAMICS	
Choose one of the following:		4
EGR-362	THERMAL & FLUID SYSTEMS ²	
EGR-360	THERMODYNAMICS	
Total Hours		77-78

¹ Foundation course

² Required for Biomedical Product Design

MECHANICAL ENGINEERING COURSES

In addition to the General Education and Engineering Core requirements, a student must also complete the following courses for the Mechanical Engineering concentration:

Code	Title	Hours
EGR-301	ANALYTICAL TOOLS FOR PRODUCT DESIGN	4
EGR-336	PROJECT MANAGEMENT	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
ECN-321	INTERMEDIATE MICROECONOMICS	3
Total Hours		29

Additional 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 must meet at least 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.