



BACHELOR OF SCIENCE: ENGINEERING

MAJOR: BSE WITH CONCENTRATION IN DESIGN AND INNOVATION

Four-Year Planning Guide ■ Catalog Year 2023-2024

FALL

FRESHMAN (2023)

MAT	131	Calculus I*	5
PHY	221	Physics I*	5
CHM	111	Principles of General ChemistryI*	4
CSU	107	Academic Foundations	3

17

SOPHOMORE (2024)

MAT	234	Multivariate Calculus*	3
EGR	113	Intro to CAD/CAM *	1
EGR	209	Mechanics and Machines *	4
EGR	220	Data Analysis*	1
EGR	185	First Year Engineering Design *	2
MAT	251	Probability & Stats*	3
REL	102	Christian Worldview	3

17

JUNIOR (2025)

EGR	226	Digital Systems	3
EGR	227	Digital Systems Lab	1
EGR	362	Thermal Fluids or EGR 360	4
PHI	211	Philosophy in Culture	3
CRI	202	Creativity in Conceptual Age	4

15

SENIOR (2026)

EGR	485	Capstone Project & Ethics	1
CRI	312	Human Innovation	3
CRI	313	Thought & Design II	3
EGR	301	Product Design	4
EGR	336	Project Management	3
		Social Science Course ***	3

17

SPRING

FRESHMAN (2024)

MAT	132	Calculus II*	5
PHY	222	Physics II*	5
EGR	100	Intro to Engineering*	1
EGR	111	Intro to Eng Graphics *	1
EGR	112	Intro to Programming *	2
REL	104	Old Testament - J	3

17

SOPHOMORE (2025)

MAT	235	Diff Eq & Linear Algebra*	3
EGR	250	Materials *	3
EGR	251	Materials Lab	1
EGR	214	Circuit Analysis*	3
EGR	215	Circuit Analysis* Lab	1
EGR	309	Machine Design I *	3
EGR	310	Machine Design I * Lab	1

15

JUNIOR (2026) (2nd Admission)

REL	204	New Testament - J	3
HUM	311	Imagination in Culture - J	3
EGR	367	Manufacturing Process	3
EGR	368	Manufacturing Process lab	1
EGR	345	Dyn. Sys. Model. Or EGR 312	4
CRI	205	Thought & Design I	3

17

SENIOR (2027)

EGR	486	Capstone Project II	2
REL	352	Christian Beliefs & History - J	3
HIS	114	Making Modern World	3
CRI	413	Thought & Design III	3
		Global Studies Requirement	3

14

SUMMER

(2024)

COM	112	Communication	3
		in Culture**	
ENG	212	Writing in	3
		Culture*, **	

6

(2025)

EGR	380	Internship I	3
-----	-----	--------------	---

3

(2026)

EGR	380	Internship II	3
-----	-----	---------------	---

3

TOTAL CREDITS

141

****See General Education Core handout for required courses

*Engineering Foundations Track (course required prior to secondary admission into Engineering Degree Program)

**Course offered online at CU over summer

***Choose One: PSY 111, SOC 111, ECN 231, ECN 232, CMI 223, SSC 161, SSC 211, SSC 262

J- Course offered during J-term

**BUILD A LIFE
THAT MATTERS**

1001 E BELTLINE AVE NE • GRAND RAPIDS MI 49525
616.949.5300 • WWW.CORNERSTONE.EDU • #WhatMattersCU



BACHELOR OF SCIENCE: ENGINEERING

MAJOR: BSE WITH CONCENTRATION IN DESIGN AND INNOVATION

Four-Year Planning Guide ■ Catalog Year 2023-2024

REQUIRED ENGINEERING CORE CLASSES

	CREDITS
CHM 111 Principles of General Chemistry	4
EGR 100 Introduction to Engineering	1
EGR 111 Introduction to Engineering Graphics	1
EGR 112 Introduction to Programming	2
EGR 113 Introduction to CAD/CAM	1
EGR 185 First Year Engineering Design	2
EGR 209 Mechanics and Machines	4
EGR 214 Circuit Analysis I	4
EGR 220 Measurement & Data Analysis	1
EGR 226 Introduction to Digital Systems	4
EGR 250 Material Science and Engineering	4
EGR 309 Machine Design I	4
EGR 345 Dynamics Systems & Modeling or EGR 312 Dynamics at 3 credits	4
EGR 362 Thermal & Fluid Systems or EGR 360 Thermodynamics at 4 credits	4
EGR 380 Internship I	3
EGR 380 Internship II	3
EGR 485 Capstone Project & Ethics	1
EGR 486 Capstone Project II	2
MAT 131 Calculus I	5
MAT 132 Calculus II	5
MAT 234 Multivariate Calculus	3
MAT 235 Diff Eq. and Linear Algebra	3
MAT 251 Probability and Statistics	3
PHY 221 Physics for Scientists & Engineers I	5
PHY 222 Physics for Scientists & Engineers II	5
Total	78

REQUIRED ENGINEERING MAJOR COURSES

	CREDITS
GEGR 301 Analytical Tools for Product Design (GV)	4
EGR 336 Project Management	3
EGR 367 Manufacturing Processes	4
IDS 312 Science of Human Innovation	3
IDS 202 Creativity in the Conceptual Age	4
IDS 205 Strategies for Innovative Thought and Design I	3
IDS 313 Strategies for Innovative Thought and Design II	3
IDS 413 Strategies for Innovative Thought and Design III	3
Total	27

CUMULATIVE TOTAL 105