

COLLEGE OF COMPUTING AND ENGINEERING
DEGREE CURRICULUM SHEET | 2023 - 2024 CATALOG
Bachelor of Science in Engineering

FIRST YEAR SEMINAR		
Course	Credits	Frequency
UNIV 1000: First Year Seminar	3	FW
Total First Year Seminar Credits	3	

GENERAL EDUCATION REQUIREMENTS		
Area/Course	Credits	Frequency
<u>Written Composition</u>		
6 credits at or above COMP 1500		
COMP 1500 College Writing	3	FW
COMP 2000 Advanced College Writing	3	FW
<u>Mathematics</u>		
6 credits at or above MATH 1040		
Satisfied by Major Prerequisites	3	FW
Satisfied by Major Prerequisites	3	FW
<u>Arts & Humanities</u>		
6 credits in HIST, ARTS, PHIL, HUMN, LITR, THEA, FILM, MUSC, DANC, WRIT, foreign language		
Open Arts & Humanities	3	FW
Open Arts & Humanities	3	FW
<u>Social & Behavioral Sciences</u>		
6 credits in PSYC, SOCL, ANTH, ECN, COMM, GEOG, GEST, INST, POLS		
Open Social & Behavioral Science	3	FW
Open Social & Behavioral Science	3	FW
<u>Science</u>		
6 credits in BIOL, MBIO, CHEM, SCIE, ENVS, PHYS		
Satisfied by Major Prerequisites	3	FW
Satisfied by Major Prerequisites	3	FW
Total General Education Credits	30	

CONCENTRATIONS		
take 15 concentration credits; see concentration sheet	15	FW
Total Concentration Credits	15	

MAJOR PREREQUISITES		
Course	Credits	Frequency
<u>Science</u>		
BIOL 1500 Biology I / Lab	4	FW
CHEM 1300 General Chemistry I /Lab	4	FW
PHYS 2400 Physics I/Lab	4	FW
PHYS 2500 Physical II/Lab	4	FW
<u>Mathematics</u>		
MATH 2100 Calculus I	4	FW
MATH 2200 Calculus II	4	FW
MATH 3200 Calculus III	4	FW
MATH 3300 Introductory Linear Algebra	3	FW
MATH 3400 Ordinary Differential Equations	3	W
MATH 4500 Probability and Statistics	3	F
Total Major Prerequisite Credits	37	

MAJOR CORE REQUIREMENTS		
Course	Credits	Frequency
CENG 4910 Engineering Ethics Seminar	1	F
EENG 2710 Electrical Circuits/Lab	4	F
GENG 1000 Introduction to Engineering	1	F
GENG 1012 Engineering Graphics	3	F
GENG 1016 Introduction to Engineering Design	3	W
GENG 2000 Engineering Design and Project Management I	2	F
GENG 2022 Statics	3	F
GENG 2050 Computer Applications in Engineering	3	W
GENG 2070 Materials and Processes	3	W
GENG 2450 Dynamics	3	W
GENG 3000 Engineering Design and Project Management II	3	W
GENG 3012 Thermal and Fluid Systems	3	W
GENG 3024 Mechanics of Materials	3	W
GENG 3050 Sensors, Measurements, and Controls	3	W
GENG 3420 Engineering Economics	3	F
GENG 3800 Quality Control for Engineers	3	F
GENG 4010 Senior Capstone Design Project I	3	F
GENG 4020 Senior Capstone Design Project II	3	W
Total Major Core Requirements Credits	50	

Frequency Key: F-Every Fall; W-Every Winter; FO - Odd Year Fall; FE - Even Year Fall; WO - Odd Year Winter; WE - Even Year Winter

TOTAL CREDITS: 123

Subject to change

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There are 2 concentrations available; choose 15 credits from one of the following:

BIOMEDICAL ENGINEERING

Course	Credits	Frequency
BENG 2080 Foundations of Biomedical Engineering	3	F
BENG 4030 Biomechanics and Materials	3	F
BENG 4040 Physiological Systems and Modeling for Engineering I	3	W
BENG 4050 Physiological Systems and Modeling for Engineering II	3	F
BENG 4200 Biomedical Instrumentation	3	W
Total Biomedical Engineering Concentration Credits	15	

INDUSTRIAL AND SYSTEMS ENGINEERING

Course	Credits	Frequency
IENG 3010 Principles and Methods of Industrial and Systems Engineering	3	F
IENG 3060 Systems Optimization	3	W
IENG 4010 Work Measurement and Human Factors	3	F
IENG 4020 Analysis of Production Systems and Facility Design	3	F
IENG 4065 Discrete System Modeling	3	W
Total Indus. and Sys. Engineering Concentration Credits	15	

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Freshman Year			
Fall		Winter	
<u>Course</u>	<u>Credits</u>	<u>Course</u>	<u>Credits</u>
UNIV 1000: First Year Seminar	3	COMP 2000 Advanced College Writing	3
COMP 1500 College Writing	3	CHEM 1300 General Chemistry I/Lab	4
BIOL 1500 Biology I/Lab	4	MATH 2200 Calculus II	4
MATH 2100 Calculus I	4	GENG 1016 Introduction to Engineering Design	3
GENG 1000 Introduction to Engineering	1	GENG 2050 Computer Applications in Engineering	3
GENG 1012 Engineering Graphics	3		
Total Credits	18	Total Credits	17
Sophomore Year			
Fall		Winter	
<u>Course</u>	<u>Credits</u>	<u>Course</u>	<u>Credits</u>
PHYS 2400 Physics I/Lab	4	PHYS 2500 Physics II/Lab	4
MATH 3200 Calculus III	4	MATH 3300 Introductory Linear Algebra	3
MATH 4500 Probability and Statistics	3	MATH 3400 Ordinary Differential Equations	3
GENG 2000 Engineering Design and Project Management I	2	GENG 2070 Materials and Processes	3
GENG 2022 Statics	3	GENG 2450 Dynamics	3
Total Credits	16	Total Credits	16
Junior Year			
Fall		Winter	
<u>Course</u>	<u>Credits</u>	<u>Course</u>	<u>Credits</u>
Open Social/Behavioral Science	3	GENG 3000 Engineering Design and Project Management II	3
EENG 2710 Electrical Circuits/Lab	4	GENG 3012 Thermal and Fluid Systems	3
GENG 3800 Quality Control for Engineers	3	GENG 3050 Sensors, Measurements, and Controls	3
GENG 3420 Engineering Economics	3	GENG 3024 Mechanics of Materials	3
Open Concentration	3	Open Concentration	3
Total Credits	16	Total Credits	15
Senior Year			
Fall		Winter	
<u>Course</u>	<u>Credits</u>	<u>Course</u>	<u>Credits</u>
Open Arts & Humanities	3	Open Arts & Humanities	3
CENG 4910 Engineering Ethics Seminar	1	Open Social/Behavioral Science	3
GENG 4010 Senior Capstone Design Project I	3	GENG 4020 Senior Capstone Design Project II	3
Open Concentration	3	Open Concentration	3
Open Concentration	3		
Total Credits	13	Total Credits	12
TOTAL CREDITS: 123			