

SCHOOL OF ENGINEERING			
Degree: BACHELOR OF SCIENCE		CURRICULUM	
Credits: 128		Since: August 2018 (201901)	
Program: CIVIL ENGINEERING			
Description: Most of the infrastructure surrounding you is provided by the work performed by civil engineers. All the buildings, highways, bridges, drainages, channels, water and wastewater systems are designed, built, maintained and improved by civil engineers. Civil engineers use science and mathematics to solve engineering problems in several areas such as: Geotechnical, Structural, Transportation, Water Resources, Environmental, Materials, Project Management and Surveying.			
Course Code	Course Title	Credits	Requisites
General Education Courses (58 crs)			
HUMA 111	Universal Culture and Civilization I	3	
SPAN 152	Fundamentals of reading and writing	3	Placement Exam
SPAN 250	Writing Techniques	3	SPAN 152
ENGL 152	Communicative English II	3	Placement Exam
ENGL 153	Advanced Communicative English	3	ENGL 152
ENGL 231	Research and Writing	3	ENGL 153
SOSC 111	Individual, Community, Govt. and Social Responsibility I	3	
SOSC 112	Individual, Community, Govt. and Social Responsibility II	3	SOSC 111
MATH 152	Pre-Calculus II	4	Placement exam or MATH 151
CHEM 203	Chemistry I	4	MATH 151
BIOL 101	Int. to Biological Sciences I	3	
MATH 221	Calculus I	4	MATH 152
MATH 222	Calculus II	4	MATH 221
MATH 223	Calculus III	4	MATH 222
MATH 395	Differential Equations	3	MATH 222
PHSC 215	Physics for Engineering I	4	MATH 221
PHSC 216	Physics for Engineering II	4	PHSC 215
Core Courses (18 crs)			
FSEN 105	Introduction to Engineering	3	
ENGI 160	Engineering Graphics	3	MATH 152
ENGI 122	Introduction to Computer Programming	3	MATH 152
ENGI 277	General Statics and Dynamics	3	PHSC 215
ENGI 318	Strength of Materials	3	ENGI 277
ENGI 280	Data Analysis	3	MATH 221
Concentration Courses (40 crs)			
CIEN 411	Principles of Surveying for Engineers	3	MATH 152
CIEN 420	Civil Engineering Materials	2	CHEM 203, PHSC 215
CIEN 420L	Civil Engineering Materials Laboratory	1	[Coreq CIEN 420]
CIEN 430	Structural Analysis I	3	ENGI 318
CIEN 432	Reinforced Concrete Design	3	CIEN 420, CIEN 430
CIEN 434	Structural Steel Design	3	CIEN 420, CIEN 430
CIEN 440	Introduction to Geotechnical Engineering	2	ENGI 318
CIEN 440L	Introduction to Geotechnical Engineering Lab	1	[Coreq CIEN 440]
CIEN 444	Foundation Engineering	3	CIEN 440
CIEN 450	Hydrology & Hydraulics	3	PHSC 215
CIEN 465	Water and Wastewater Engineering	3	CIEN 411
CIEN 460L	Introduction to Environmental Engineering Laboratory	1	CHEM 203, MATH 152
CIEN 470	Construction Project Management	3	Placement exam or MATH 151
CIEN 480	Transportation and Traffic Engineering	3	ENGI 280
CIEN 484	Highway Engineering	3	CIEN 411
CIEN 490	Civil Engineering Design Project	3	Chairperson's Permission

Course Code	Course Title	Credits	Requisites
Elective Courses (Select a minimum of 9 credits from below as indicated) plus 3 credits for free elective			
CIEN 403	Special Topics: Structures and Geotechnics	3	ENGI 277
CIEN 406	Special Topics: Environmental and Water Resources	3	CIEN 465
CIEN 407	Special Topics: Construction Management	3	CIEN 470
CIEN 408	Special Topics: Transportation	3	CIEN 480
CIEN 431	Structural Analysis II	3	CIEN 430
CIEN 436	Design of Wood Structure	3	CIEN 430
CIEN 461	Introduction to Environmental Engineering for CE	3	CHEM 203, MATH 152
CIEN 474	Construction Cost Estimates	3	CIEN 470
CIEN 498	Undergraduate Research I	3	ENGI 280, Chairperson's Permission
CIEN 499	Undergraduate Research II	3	CIEN 498, Chairperson's permission and literature review (if changing topic)
Entrepreneurship and Innovation Minor (Including CIEN 490, select from the list below until a minimum of 12 credits is completed.) ¹			
INNO 300	Sustainable Innovation (or ENTR 360)	3	Third Year Status
INNO 303	Product Development, Prototyping, and Idea Validation (or ENTR 401)	3	INNO 300
INNO 400	Startup Internship	3	School's permission
MANA 204	Mercantile Law and Corporate Ethics (or IMEN 341)	3	
¹ Students pursuing the minor in Entrepreneurship and Innovation must take at least one course of the minor sequence outside the School of Engineering as a free elective course.			

Minimum grade required: All courses of the program must be approved with a minimum grade of C.

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SCHOOL OF ENGINEERING			
Degree: BACHELOR OF SCIENCE		PLAN OF STUDY	
Credits: 128		Since: August 2018 (201901)	
Program: CIVIL ENGINEERING			
Course Code	Course Title	Credits	Requisites
FIRST YEAR - FIRST SEMESTER			
FSEN 105	Introduction to Engineering	3	
MATH 152	Algebra and Trigonometry II	4	Placement Exam or MATH 151
SPAN 152	Fundamentals of Reading and Writing	3	Placement Exam
ENGL 152	Communicative English II	3	Placement Exam
HUMA 111	Universal Culture and Civilization I	3	
		16	
FIRST YEAR - SECOND SEMESTER			
MATH 221	Calculus I	4	MATH 152
CIEN 470	Construction Project Management	3	Placement Exam or MATH 151
SPAN 250	Writing Techniques	3	SPAN 152
ENGL 153	Advanced Communicative English	3	ENGL 152
SOCS 111	Individual, Community, and Social Responsibility I	3	
		16	
SECOND YEAR - FIRST SEMESTER			
PHSC 215	Physics for Engineering I	4	MATH 221
CIEN 411	Principles of Surveying for Engineers	3	MATH 152
ENGI 160	Engineering Graphics	3	MATH 152
ENGL 231	Research and Writing	3	ENGL 153
SOSC 112	Individual, Community, and Social Responsibility II	3	SOSC 111
		16	
SECOND YEAR - SECOND SEMESTER			
ENGI 277	Statics & Dynamics	3	PHSC 215
CIEN 465	Water and Wastewater Engineering	3	CIEN 411
MATH 222	Calculus II	4	MATH 221
CHEM 203	Chemistry I	4	Placement Exam or MATH 151
PHSC 216	Physics for Engineering II	4	PHSC 215
		18	
THIRD YEAR - FIRST SEMESTER			
ENGI 318	Strength of Materials	3	ENGI 277
CIEN 420	Civil Engineering Materials	2	CHEM 203, PHSC 215
CIEN 420L	Civil Engineering Materials Laboratory	1	[Coreq CIEN 420]
MATH 223	Calculus III	4	MATH 222
ENGI 122	Introduction to Computer Programming	3	MATH 152
CIEN 460L	Introduction to Environmental Engineering Laboratory	1	MATH 152, CHEM 203
BIOL 101	Int. to Biological Science I	3	
		17	

THIRD YEAR - SECOND SEMESTER			
CIEN 430	Structural Analysis I	3	ENGI 318
CIEN 440	Introduction to Geotechnical Engineering	2	ENGI 318
CIEN 440L	Introduction to Geotechnical Engineering Laboratory	1	[Coreq CIEN 440]
MATH 395	Differential Equations	3	MATH 222
ENGI 280	Data Analysis	3	MATH 221
CIEN 450	Hydrology & Hydraulics	3	PHSC 215
		15	
FOURTH YEAR - FIRST SEMESTER			
CIEN 432	Reinforced Concrete Design	3	CIEN 420, CIEN 430
CIEN 434	Structural Steel Design	3	CIEN 420, CIEN 430
CIEN 444	Foundation Engineering	3	CIEN 440
CIEN 480	Transportation and Traffic Engineering	3	ENGI 280
-	Civil Engineering Elective I	3	Depends on Elective
		15	
FOURTH YEAR - SECOND SEMESTER			
CIEN 490	Civil Engineering Design Project	3	Chairperson's Permission
CIEN 484	Highway Engineering	3	CIEN 411
-	Civil Engineering Elective II	3	Depends on Elective
-	Civil Engineering Elective II	3	Depends on Elective
-	Free Elective	3	Depends on Elective
		15	

Minimum grade required: All courses of the program must be approved with a minimum grade of C.

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