

SCHOOL OF ENGINEERING			
Degree: BACHELOR OF SCIENCE Credits: 132			CURRICULUM 201401
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			
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			
FSEN 105	Introduction to Engineering	3	
ENGI 160	Engineering Graphics	3	MATH 152
ENGI 122	Introduction to Computer Programming	3	MATH 152
ENGI 244	Engineering Materials	3	CHEM 203, PHSC 215
ENGI 277	General Statics and Dynamics	3	PHSC 215
ENGI 410	Engineering Economy	3	MATH 221
ELEN 301	Electrical Networks I	3	PHSC 216
ENGI 318	Strength of Materials	3	ENGI 277
ENGI 280	Data Analysis	3	MATH 221
Concentration Courses			
CIEN 410	Principles of Surveying	2	MATH 221, ENGI 160
CIEN 420	Civil Engineering Materials	2	ENGI 244
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	ENGI 277, MATH 222
CIEN 460	Introduction to Environmental Engineering	2	CHEM 203, CIEN 450
CIEN 460L	Introduction to Environmental Engineering Laboratory	1	[Coreq CIEN 460]

Course Code	Course Title	Credits	Requisites
CIEN 470	Construction Project Management	3	ENGI 410, CIEN 420, ENGI 280
CIEN 480	Transportation and Traffic Engineering	3	ENGI 280
CIEN 484	Highway Engineering	3	CIEN 480
CIEN 490	Civil Engineering Design Project	3	Chairperson's Permission
Elective Courses (Select a minimum of 6 credits from below as indicated) plus 3 credits for free elective			
CIEN 431	Structural Analysis II	3	CIEN 430
CIEN 436	Design of Wood Structure	3	CIEN 430
CIEN 465	Water and Wastewater Engineering	3	CIEN 460
CIEN 474	Construction Cost Estimates	3	CIEN 470

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 201401	
Credits: 132			
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	MATH 151
HUMA 111	Universal Culture and Civilization I	3	
ENGL 152	Communicative English II	3	Placement Exam
SPAN 152	Fundamentals of Reading and Writing	3	Placement Exam
		16	
FIRST YEAR - SECOND SEMESTER			
ENGI 160	Engineering Graphics	3	MATH 152
MATH 221	Calculus I	4	MATH 152
CHEM 203	General Chemistry I	4	MATH 151
ENGL 153	Advanced Communicative English	3	
SPAN 250	Writing Techniques	3	SPAN 152
		17	
SECOND YEAR - FIRST SEMESTER			
ENGI 122	Introduction to Computer Programming	3	MATH 152
MATH 222	Calculus II	4	MATH 221
PHSC 215	Physics for Engineering I	4	MATH 221
SOCS 111	Individual, Community, Govt. and Social Responsibility I	3	
ENGL 231	Research and Writing	3	ENGL 153
		17	
SECOND YEAR - SECOND SEMESTER			
ENGI 277	Statics & Dynamics	3	PHSC 215
ENGI 244	Engineering Materials	3	CHEM 203, PHSC 215
MATH 223	Calculus III	4	MATH 222
PHSC 216	Physics for Engineering II	4	PHSC 215
-	Free Elective	3	Depends on Elective
		17	
THIRD YEAR - FIRST SEMESTER			
ELEN 301	Electrical Networks I	3	PHSC 216
ENGI 318	Strength of Materials	3	ENGI 277
MATH 395	Differential Equations	3	MATH 222
CIEN 420	Civil Engineering Materials	2	ENGI 244
CIEN 420L	Civil Engineering Materials Laboratory	1	[Coreq CIEN 420]
BIOL 101	Int. to Biological Science I	3	
		15	
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]
ENGI 410	Engineering Economy	3	MATH 221
SOSC 112	Individual, Community, Govt. and Social Responsibility II	3	SOSC 111

Course Code	Course Title	Credits	Requisites
ENGI 280	Data Analysis	3	MATH 221
		15	
FOURTH YEAR - FIRST SEMESTER			
CIEN 432	Reinforced Concrete Design	3	CIEN 420, CIEN 430
CIEN 450	Hydrology & Hydraulics	3	ENGI 277, MATH 222
CIEN 444	Foundation Engineering	3	CIEN 440
CIEN 480	Transportation and Traffic Engineering	3	ENGI 280
CIEN 410	Principles of Surveying	2	MATH 221, ENGI 160
-	Civil Engineering Elective I	3	Depends on Elective
		17	
FOURTH YEAR - SECOND SEMESTER			
CIEN 434	Structural Steel Design	3	CIEN 420, CIEN 430
CIEN 460	Environmental Engineering	2	CHEM 203, CIEN 450
CIEN 460L	Introduction to Environmental Engineering Laboratory	1	[Coreq CIEN 460]
CIEN 484	Highway Engineering	3	CIEN 480
CIEN 470	Construction Project Management	3	ENGI 410, ENGI 280, CIEN 420
CIEN 490	Civil Engineering Design Project	3	Chairperson's Permission
-	Civil Engineering Elective II	3	Depends on Elective
		18	

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