

CURRICULAR SEQUENCE

First Year

First Semester				Second Semester			
Course	Credits	Approved	In Progress	Course	Credits	Approved	In Progress
MATH 152+*	4			MATH 221+	4		
SPGS 152*	3			CIEN 470	3		
ENGS 152*	3			SPGS 250	3		
HUGS 101	3			ENGS 153	3		
SCGS 200	3			CHEM 203+	4		
Total	16			Total	17		

Second Year

First Semester				Second Semester			
Course	Credits	Approved	In Progress	Course	Credits	Approved	In Progress
PHSC 215+	4			ENGI 233	3		
CIEN 411	3			CIEN 465	3		
ENGI 160	3			MATH 222+	4		
HUGS 102	3			SOGS 201	3		
INGS 201	3			PHSC 216+	4		
Total	16			Total	17		

Third Year

First Semester				Second Semester			
Course	Credits	Approved	In Progress	Course	Credits	Approved	In Progress
ENGI 318	3			CIEN 430	3		
CIEN 420	2			CIEN 440	2		
CIEN 420L	1			CIEN 440L	1		
MATH 223+	4			MATH 395	3		
ENGI 122	3			ENGI 280	3		
CIEN 462	1			CIEN 450	3		
SOGS 202	3			BIOL 101	3		
Total	17			Total	18		

Fourth Year

First Semester				Second Semester			
Course	Credits	Approved	In Progress	Course	Credits	Approved	In Progress
CIEN 432	3			CIEN 490	3		
CIEN 434	3			CIEN 484	3		
CIEN 444	3			Elective	3		
CIEN 480	3			Elective	3		
Elective	3			HIGS 201	3		
Total	15			Total	15		

Notes:

- * Students will be enrolled according to their College Board results.
- + Laboratory course.
- The General Education component of all bachelor degrees in engineering is different from other programs because of the Engineering Accreditation Commission ABET requirements. Engineering competencies in mathematics start at Calculus level, and competencies in science require an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics (ABET's Student Outcome 1). Also, they need to be able to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions (ABET's Student Outcome 6). These exceed compliance levels of the COMPETENT competency level for both quantitative and scientific reasoning.
- New students, without previous university experience, are required to take the Student Induction and Leadership Seminar (SIGS 100) and it will be offered the week before classes begin. Late registration students must complete this seminar during the academic semester.
- Developmental courses to develop academic skills for students entering with some deficiency: MATH 121 Intermediate Algebra (4 credits) and MATH 151 Pre-Calculus (4 credits).
- Subject to change.

CURRICULUM

General Education Component - 37 credits

Course	Credits	Title	Requisites
ENGS 152*	3	Fundamentals of Speaking, Reading and Writing I	
ENGS 153	3	Fundamentals of Speaking, Reading and Writing II	ENGS 152*
SPGS 152*	3	Fundamentals of Reading and Writing	
SPGS 250	3	Writing Techniques	SPGS 152*
HUGS 101	3	World Culture I	
HUGS 102	3	World Culture II	HUGS 101
INGS 201	3	Introduction to Information, Research & Writing Skills	
HIGS 201	3	Puerto Rico History and Culture	
SOGS 201	3	Human Being and Social Consciousness	
SOGS 202	3	Questioning Politics & Economics	SOGS 201
MATH 152+*	4	Pre-Calculus II	Placement test or MATH 151+
SCGS 200	3	Science, Technology, and Society	

Core Component - 45 credits

Course	Credits	Title	Requisites
ENGI 160	3	Engineering Graphics	MATH 152+
ENGI 122	3	Introduction to Computer Programming	MATH 152+
ENGI 233	3	Statics	PHSC 215+
ENGI 318	3	Strength of Materials	ENGI 233
ENGI 280	3	Data Analysis	MATH 221+
MATH 221+	4	Calculus I	MATH 152+
MATH 222+	4	Calculus II	MATH 221+
MATH 223+	4	Calculus III	MATH 222+
MATH 395	3	Differential Equations	MATH 222+
CHEM 203+	4	General Chemistry I	MATH 151+
PHSC 215+	4	Physics for Engineering I	MATH 221+
PHSC 216+	4	Physics for Engineering II	PHSC 215+
BIOL 101	3	Introduction to Biological Sciences I	

Major Component - 40 credits

Course	Credits	Title	Requisites
CIEN 411	3	Principles of Surveying for Engineers	MATH 152+
CIEN 420	2	Civil Engineering Materials	CHEM 203+, PHSC 215+
CIEN 420L	1	Civil Engineering Materials Laboratory	Co-req. CIEN 420
CIEN 430	3	Structural Analysis I	ENGI 318
CIEN 432	3	Reinforced Concrete Design	CIEN 420, CIEN 430
CIEN 434	3	Structural Steel Design	CIEN 420, CIEN 430
CIEN 440	2	Introduction to Geotechnical Engineering	ENGI 318
CIEN 440L	1	Introduction to Geotechnical Engineering Laboratory	Co-req. CIEN 440
CIEN 444	3	Foundation Engineering	CIEN 440
CIEN 450	3	Hydrology & Hydraulics	PHSC 215+
CIEN 465	3	Water and Wastewater Engineering	CIEN 411
CIEN 462	1	Environmental Engineering and Water Resources Laboratory	CHEM 203+, MATH 152+
CIEN 470	3	Construction Project Management	Placement exam or MATH 151+
CIEN 480	3	Transportation and Traffic Engineering	ENGI 280
CIEN 484	3	Highway Engineering	CIEN 411
CIEN 490	3	Civil Engineering Design Project	Chairperson's permission

Academic Division: Engineering, Design & Architecture **Department:** Engineering **Effective:** August 2021

CURRICULUM

Electives - 9 credits

Course	Credits	Title	Requisites
CIEN 337	3	Construction Drawings and Details	PHSC 215+
CIEN 403	3	Special Topics: Structures and Geotechnics	ENGI 233
CIEN 406	3	Special Topics: Environmental and Water Resources	CIEN 465
CIEN 407	3	Special Topics: Construction Management	CIEN 470
CIEN 408	3	Special Topics: Transportation	CIEN 480
CIEN 431	3	Structural Analysis II	CIEN 430
CIEN 436	3	Design of Wood Structure	CIEN 430
CIEN 461	3	Introduction to Environmental Engineering for CE	CHEM 203+, MATH 152+
CIEN 474	3	Construction Cost Estimates	CIEN 470
CIEN 498	3	Undergraduate Research I	ENGI 280, Chairperson's Permission
CIEN 499	3	Undergraduate Research II	CIEN 498, Chairperson's permission and literature review (if changing topic)

PRELIMINARY ACADEMIC EVALUATION
SUBJECT TO CHANGE

Credits' Total:

_____ Approved

_____ Remaining

Student's Signature: _____ Date: _____

Academic Counselor's Signature: _____

Date: _____