

Program Map: Civil Engineering Technology
Engineering Technology Department, College of Science and Technology

Name: _____ **SID:** _____ **Advisor:** _____
Start Date: _____ **Catalog Date:** _____ **Expected Graduation Date:** _____

Freshman	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	ENGL 1101* Core Area A	Composition I Pre-requisite: None	3	ENGL 1102* Core Area A	Composition II Pre-requisite: ENGL 1101	3	
MATH 1113* Core Area A	Pre-Calculus Pre-requisite: MATH 1111	3	MATH 2101* Area F	Calculus I Pre-requisite: MATH 1113	4		
CHEM 1211* Area F	Principles of Chemistry I** Pre-requisite: CHEM 1115 OR 30 in Chemistry Assessment Test	3	PHYS 1111K* Area D Lab	Introductory Physics I Pre-requisite: MATH 1113	4		
CHEM 1211L* Area F	Principles of Chemistry I Lab** Pre-requisite: None	1	ENGT 2101K* Area F	Computer Graphics Pre-requisite: MATH 1113	3		
HUMN 1201 Core Area B	Critical Thinking & Communication Pre-requisite: None	3	CSCI 1130 Area D (non-lab)	Computer & its Applications* Pre-requisite: None	3		
COST 1103 Area F	COST First Year Experience Pre-requisite: None	2					
Fall Milestones		Total	Spring Milestones		Total		
Students must take MATH 1113 to prevent delay in graduation		15	Students must take ENGT 2101K to prevent delay in graduation		17		

Sophomore	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	MATH 2111* Area F	Calculus II Pre-requisite: MATH 2101	4	CIVT 3201K* Major	Civil Engineering Materials Pre-requisite: MATH 1113	3	
PHYS 1112K* Area D Lab	Introductory Physics II Pre-requisite: PHYS 1111K	4	CIVT 3301K* Major	Fluid Mechanics Pre-requisite: ENGT 3101 or ENGR 2201	4		
CIVT 3101K* Major	Surveying Pre-requisite: MATH 1113	4	ENGT 3501* Major	Dynamics Pre-requisite: ENGT 3101 or ENGR 2201	2		
ENGT 3101* or ENGR 2201* Major	Statics Pre-requisite: MATH 1113/PHYS 1111K OR PHYS 2211K Pre-requisite: math 2111; PHYS 2211K	3	ENGT 3601* Major	Strength of Materials Pre-requisite: ENGT 3101 or ENGR 2201	3		
			AFRS 1501 Core Area B	Survey African American History Pre-requisite: None	2		
Fall Milestones		Total	Spring Milestones		Total		
Students must take MATH 2111 and ENGT 3101 to prevent delay in graduation		15	Students must take CIVT 3301K to prevent delay in graduation		14		

Junior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	CIVT 3311* Major	Engineering Hydrology Pre-requisite: ENGT 3301K	3	CIVT 3211* Major	Construction Estimating & Management Pre-requisite: CIVT 3201K	3	
CIVT 3401K* Major	Highway & Transportation Engineering Pre-requisite: ENGT 3101 or ENGR 2770; CIVT 3201K; MATH 2111	4	CIVT 4100K* Major	Structure Design Pre-requisite: ENGT 2101K OR ENGR 2770; CIVT 3701K	4		
CIVT 3701K* Major	Structural Analysis Pre-requisite: ENGT 3601	3	CIVT 4201K* Major	Environmental Engineering I Pre-requisite: CIVT 3311	4	Apply for graduation.	
ENGT 3701* Major	Engineering Economy Pre-requisite: MATH 1113	3	POLS 1101 Core Area E	American Government Pre-requisite: None	3	Students are encouraged to obtain an internship, which can be used for Major Technical Elective Credit; communicate with the Department Chair to register for the internship course and get it approved for credits prior to the internship.	
Core Area C Option	Pre-requisite: Varies	3					
Fall Milestones		Total	Spring Milestones		Total		
Student must take CIVT 3701K, CIVT 3401K, and CIVT 3311 to prevent delay in graduation.		16			14		

Senior	Fall Courses			Spring Courses			Notes
	Course	Name	Hours	Course	Name	Hours	
	ELET 3101K* Major	Electrical Circuit I Pre-requisite: MATH 1113	4	CIVT 3601K* Major	Soil Mechanics & Foundations Pre-requisite: CIVT 3201K & ENGT 3601	4	
CIVT 4211* Major	Environmental Engineering II Pre-requisite: CIVT 4201K	3	ENGT 4401* Major	Senior Project Pre-requisite: CIVT 4211K; CIVT 4111K; CIVT 4101K; CIVT 3601K; or CIVT 3401K	3		
Major*	Technical Elective Pre-requisite: Varies	3	Major*	Technical Elective Pre-requisite: Varies	3	Does this Degree Program Require a Minor? <u>No</u>	
Area E Social Sci. Option	Pre-requisite: None	3	HIST 2111 or 2112 Core Area E	U.S. History Pre-requisite: None	3	Total Hours Required for this Degree Program: <u>123</u>	
Core Area C Option	Pre-requisite: Varies	3	Area E Social Sci. Option	Pre-requisite: Varies	3		
Fall Milestones		Total	Spring Milestones		Total		
		16			16		

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Core Curriculum (Programmed Preferred Options in Bold)

Area B – Institutional Options 5 hrs

- i. AFRS 1501 Survey of African-American Experience 2 hrs
- ii. HUMN 1201 Critical Thinking & Communication 3 hrs

Area C – Humanities/Fine Arts, and Ethics 6 hrs,

1. Select one of the following:

- i. ENGL 2111 World Literature I 3 hrs
- ii. ENGL 2112 World Literature II 3 hrs
- iii. ENGL 2121 British Literature I 3 hrs
- iv. ENGL 2122 British Literature II 3 hrs
- v. ENGL 2131 American Literature I 3 hrs
- vi. ENGL 2132 American Literature II 3 hrs
- vii. ENGL 2222 African American Literature 3 hrs
- viii. PHIL 2010 Introduction to Philosophy 3 hrs
- ix. PHIL 2030 Introduction to Ethics 3 hrs

2. Select one of the following:

- i. ARTS 1101 Introduction to Visual Art 3 hrs
- ii. DNCE 2010 Dance Appreciation 3 hrs
- iii. ENGL 2521 Introduction to Film 3 hrs
- iv. HUMN 2011 Humanities 3 hrs
- v. MUSC 1101 Introduction to Music 3 hrs
- vi. THEA 2101 Introduction to Theatre 3 hrs

Area D – Natural Sciences, Math & Technology 11 hrs

1. Select one of the following:

- i. BIOL 1107 Principles of Biology I 3 hrs
 - ii. BIOL 1108 Principles of Biology II 3 hrs
 - iii. CHEM 1211 Principles of Chemistry I 3 hrs
 - iv. CHEM 1212 Principles of Chemistry II 3 hrs
 - v. CISM 1130 Computer Applications 3 hrs
 - vi. CSCI 1130 Computer Applications 3 hrs**
 - vii. CSCI 1301 Computer Science I 3 hrs**
 - viii. ENVS 1140 Environmental Issues 3 hrs
2. Select two of the following lab sciences in sequence:
- i. BIOL 1107/1107L Principles of Biology I 4 hrs
 - ii. BIOL 1108/1108L Principles of Biology II 4 hrs
 - iii. CHEM 1211/1211L Principles of Chemistry 4 hrs
 - iv. CHEM 1212/1212L Principles of Chemistry 4 hrs
 - v. PHYS 1111K Introductory Physics I 4 hrs**
 - vi. PHYS 1112K Introductory Physics II 4 hrs**
 - vii. PHYS 2211K Principles of Physics I 4 hrs**
 - viii. PHYS 2212K Principles of Physics II 4 hrs**

Area E – Social Science 12 hrs

- i. POLS 1101 American Government 3 hrs
2. Select one of the following:
- i. HIST 2111 U.S. History to the Post-Civil War Period 3 hrs
 - ii. HIST 2112 U.S. History from the Post-Civil War to Pre 3 hrs
3. Select two of the following:
- i. AFRS 2000 Introduction to Africana Studies 3 hrs
 - ii. ANTH 1101 Introduction to Anthropology 3 hrs
 - iii. ECON 2105 Principles of Macro-Economics 3 hrs
 - iv. GEOG 1101 Introduction to Human Geography 3 hrs
 - v. HIST 1111 World Hist to Early Modern Times 3 hrs
 - vi. HIST 1112 World History Early Modern Times to Pres 3 hrs
 - vii. POLS 2401 Global Issues 3 hrs
 - viii. PSYC 1101 Intro to General Psychology 3 hrs
 - ix. PSYC 2103 Human Growth & Development 3 hrs
 - x. SOCI 1101 Introduction to Sociology 3 hrs
 - xi. SOCI 1160 Social Problems 3 hrs

Civil Engineering Technology Major Technical Electives (6HRS)

Select from the following:

CIVT 3501	Civil Engineering Computing Practices	3 credits
CIVT 4350	Civil & Environmental Systems	3 credits
CSCI 1301	Engineering Computer Science I	3 credits
CSCI 1371	Computing for Engineers & Scientists	3 credits
ELET 3701K	Data Acquisition Systems	4 credits
ENGT 4901	Engineering Technology Internship	3 credits
ENGT 4903	Special Topics	1-4 credits
MATH 3301	Differential Equations	4 credits
MECT 3411	Thermodynamics	3 credits
MSCI 3702	Intro to Geo Info Systems	3 credits
CIVT 2113/DATA 2113	Intro. to Data Analytics in Transportation and Logistics	3 credits
CIVT 3113/DATA 3113	Advanced Data Analytics in Transportation	3 credits

Distinctive Courses/Descriptions

Civil Engineering Technology

The curriculum in civil engineering technology (CET) is designed to provide ample instruction in those areas of knowledge required for successful performance in the following capacities as well as in other construction related positions:

Architectural and Structural Draftsman and Designer - plans, designs and supervises construction of frame, steel and concrete structures; makes architectural inspections and appraisals for architects and builders.

Highway Engineering Technologist - collects and tests soil samples, concrete and other materials to ascertain physical characteristics for use in highway construction; establishes the location and measurements of points, elevations, lines, areas and contours of land needed for highway construction and prepares hard copy, draft or computer generated drawings of same.

Estimator - determines quantities and costs of materials and labor required to erect structures.

Materials Tester - determines mechanical properties of materials used in the erection of structures and highways.

Surveyor - supervises, directs and is responsible for the accuracy of the work of an engineering survey party engaged in determining the location and measurements of points, elevations, lines, areas and contours on the Earth's surface for purposes of securing data for building and highway construction, map-making, land-valuation, mining or other purposes.

Environmental Technologist - Plans, designs and monitors water, wastewater and other environmental pollution control systems.