The University of Texas Rio Grande Valley

Bachelor of Science in Computer Engineering

Software Track

2018-2019

		!	H	Course #	Course Title	Min.	GEC	Prerequisite	Additional Notes
FIRST YEAR	FALL		3	Choose 1	Communication (Core)	C	010	For all 010 courses: Satisfactory scores on ENGL portion of ACT test or TSI reading/writing exams or ENGL 0301. For ENGL 1302/1388, a grade of "C" or better in ENGL 1301/1387.	See General Education Core for more details Options: ENGL 1301 or ENGL 1387 (H)
			4	MATH 2413	Calculus I (Core)	C	020	MATH 2412 with a grade of 'C' or better; or passing the Precalculus Exemption Test administered by the Department of Mathematics.	See General Education Core for more details.
			1	CMPE 1101	Introduction to Computer Engineering	C			
			3	POLS 2305	U.S. & Texas Government and Politics I		070		See General Education Core for more details Options: POLS 2305 or POLS 2385 (H)
			3	Choose 1	Integrative and Experiential Learning (Core)		090		Choose any course from Humanities (040 Language, Philosophy & Culture) except Professional Ethics
				UNIV 1301	Learning Framework				Only if required, based on ACT/SAT and high school rank.
		14 Semester Total Hours							
	SPRING		3	Choose 1	Communication (Core)	C	010	For all 010 courses: Satisfactory scores on ENGL portion of ACT test or TSI reading/writing exams or ENGL 0301. For ENGL 1302/1388, a grade of "C" or better in ENGL 1301/1387.	See General Education Core for more details Options: ENGL 1302 or ENGL 1388 (H) or ENGL 1305.
			4	MATH 2414	Calculus II	C		MATH 2413 (or MATH 2487) with a grade of 'C' or better.	
			3	CMPE 1370	Engineering Computer Science I	C		Grade of 'C' or better in MATH 1314 or placement in a higher level Math course; and CMPE 1101. Co-requisite: CMPE 1170.	
			1	CMPE 1170	Engineering Computer Science I Lab	C		Co-requisite: CMPE 1370.	
			4	PHYS 2425	Physics for Scientists and Engineers I (Core)		030/ 090	MATH 2413 (or MATH 2487) and concurrent enrollment in MATH 2414 (or MATH 2488).	1 hour of lab for Core 090. See General Education Core for more details.
		15 Semester Total Hours							
		!	H	Course #	Course Title	Min.	GEC	Prerequisite	Additional Notes
SECOND YEAR	FALL		3	MATH 2346	Mathematics for Electrical and Computer Engineers	C		CSCI 1380 (or CSCI 1387) or CMPE 1170/1370 (or CMPE 1378/1178) with a grade of 'C' or better, and MATH 2413 (or MATH 2487) with a grade of 'C' or better.	
			3	CMPE 2380	Computer Science II	C		CSCI 1370 (or CSCI 1378), or CMPE 1370 (or CMPE 1378), or consent of instructor.	OR CSCI 2380.
			3	Choose 1	Social and Behavioral Sciences (Core)		080		See General Education Core for course options.
			3	Choose 1	American History (Core)		060		See General Education Core for more details. Options: HIST 1301 or HIST 1387 or HIST/MASC 2327
			3	CMPE 2330	Digital Systems Engineering I	C			
			1	CMPE 2130	Digital Systems Engineering I Lab	C		Credit/registration for CMPE/ELEE 2330.	
		16 Semester Total Hours							
	SPRING		3	CMPE 3333	Algorithms and Data Structures	C		CSCI/CMPE 2380 (or CSCI/CMPE); and MATH 2346 or CSCI 3310 or Math 2305	
			4	PHYS 2426	Physics for Scientists and Engineers II (Core)		030/ 090	PHYS 2425.	1 hour of lab for Core 090. See General Education Core for more details.
			3	CMPE 2320	Electric Circuits I	C		MATH 2414 (or MATH 2488) and credit/registration for PHYS 2426.	
			1	CMPE 2120	Electric Circuits I Lab	C		Credit/registration for CMPE 2320 or ELEE 2305.	
			3	POLS 2306	U.S. & Texas Government and Politics II		070		See General Education Core for more details Options: POLS 2306 or POLS 2386 (H)
			3	CHEM 1309	Chemistry for Engineers			MATH 1314, MATH 1414, MATH 2412, or MATH 2487 with a grade of "C" or higher	
			1	CHEM 1109	Chemistry for Engineers Lab		090	Credit/registration in CHEM 1309	
		18 Semester Total Hours							

CORE: The 2018-2019 list of core courses can be found at: www.utrgv.edu > Academics > Undergraduate > General Education Core
www.utrgv.edu/core

		!	H	Course #	Course Title	Min.	GEC	Prerequisite	Additional Notes
THIRD YEAR	FALL		3	CMPE 3340	Software Engineering I			3 advanced hours in CSCI (or CMPE equivalent); and CSCI/CMPE 2380 (or CSCI/CMPE 2388).	
			3	CMPE 2333	Computer Org. and Assembly Language	C		CMPE/CSCI 1370 (or CMPE/CSCI 1378)	
			3	MATH 3341	Differential Equations	C		MATH 2414 (or MATH 2488) with a grade of C or better	
			3	CMPE 3334	Systems Programming	C		CSCI/CMPE 2380; and CSCI/CMPE 2333, ELEE 3435, or CMPE 3437.	
			4	CMPE 3403	Electronics for Computer Engineering	C		CMPE 2320 or ELEE 2305 and CMPE 2330 or ELEE 2330 with a grade of C or better.	
			16	**Semester Total Hours**					
			3	CMPE 3331	Microcontroller and Embedded Systems Lab	C		CMPE 3437 or ELEE 3435.	
			3	PHIL 2326	Ethics, Technology, and Society		040		
			3	CMPE 4333	Database Design and Implementation	C		CSCI 3333 or CMPE 3333.	
			3	CMPE 3326 or CMPE 3328	Object Oriented Programming in Java or C #	C			Can also take CMPE 3328: Objective-Oriented Programming in C#
			3	CMPE 4335	Computer Architecture	C		CMPE 2333 or CMPE 3437	
			3	CMPE 4303	Digital Systems Engineering II	C		CMPE/ELEE 2330 or consent of instructor.	
			18	**Semester Total Hours**					
		!	H	Course #	Course Title	Min.	GEC	Prerequisite	Additional Notes
FOURTH YEAR	FALL		3	STAT 3337	Probability and Statistics	C		Mth 2414 (OR math 2488) with a grade of 'C' or better.	
			3	Choose 1	American History (Core)		060		See General Education Core for more details. Options: HIST 1302 or HIST 1388 or HIST/MASC 2328.
			3	Choose 1	Technical Elective				See Degree for course options. 5 hours required - may take one (2) credit and one (3) credit technical elective.
			3	CMPE 4345	Computer Networks	C		CMPE 4345: CMPE 2380	
			3	CMPE 4371	Senior Design I Software	C		Consent of instructor and either CSCI 3340 or CMPE 3340.	
			15	**Semester Total Hours**					
	SPRING		3	Choose 1	Creative Arts (Core)		050		See General Education Core for course options.
			3	CMPE 3341	Software Engineering II	C		CSCI 3340 or CMPE 3340.	
			3	CMPE 4334	Operating Systems	C		CMPE 3334	
			2	Choose 1	Technical Elective				See Degree for course options. 5 hours required - may take one (2) credit and one (3) credit technical elective.
			3	CMPE 4372	Senior Design II Software	C		CMPE 4371 and consent of instructor.	
			14	**Semester Total Hours**					

Graduation Requirements

As part of the degree, all students must complete a two-semester capstone senior design project, represented by CMPE 4371 and CMPE 4372 or CMPE 4373 and CMPE 4374 in the degree plan. This project must be of substantial scope and complexity, demonstrate competencies from across the curriculum (in particular, the ability to design computer software, electronic hardware and integrate the two in systems) and address the social, economic and ethical consequences of the project. All courses in sections B1 - Computer Engineering Core, B2 - Senior Design, and B4 - must be completed with a grade of 'C' or better. In addition to the graduation requirements listed in the UTRGV 2018-2019 Undergraduate Catalog, demonstration of proficiency can be demonstrated by a college credit exam, a placement test approved through the UTRGV Department of Writing and Language Studies, and/or up to six credit hours of college-level language coursework.

126 **TOTAL HOURS**
(54) **TOTAL ADVANCED HOURS**

Symbols Key

Critical ('!'): sequence sensitive course.
Minimum Grade: A - Excellent; B - Good; C - Satisfactory; D - Below Average; CR - Credit; P - Passing; S - Satisfactory.

General Education Core (GEC) Sections: 010 - Communication; 020 - Mathematics; 030 - Life and Physical Sciences; 040 - Language, Philosophy & Culture; 050 - Creative Arts; 060 - American History; 070 - Government/Political Science; 080 - Social and Behavioral Sciences; 090 - Applied Communication and Literacies; 090 - Humanities; 090 - Leadership; 090 - Science Labs; 090 - Interdisciplinary ; 090 - Technologies; 090 - Language Diversity & Writing.

Language Proficiency Requirement: Student is required to demonstrate language proficiency in a language other than English at the undergraduate level equivalent to a minimum of six credits.