The University of Texas Rio Grande Valley

Bachelor of Science in Computer Engineering (BSCE)
Computer Engineering
Software Track

2021-2022
Degree Plan Tentative Pending University Approval

	!	H	Course #	Course Title	Min. Grade	GEC	Prerequisite	Additional Notes
FIRST YEAR – FALL		3	Choose 1	Communication (Core)	C	010	For all 010 courses: Satisfactory scores on English portion of ACT test and TSI examination or ENGL 0301. For ENGL 1302, a grade of "C" or better in ENGL 1301.	See General Education Core for more details Option: ENGL 1301
		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. Federal Govt & Politics		070		
		3	Choose 1	Integrative and Experiential Learning (Core)		090		Complete three credit hours from the approved core curriculum, except PHIL 2326, in addition to the required labs. See degree plan.
			UNIV	1301 Learning Framework 1101 Academic and Career Success 1001 Living and Working by Design				As required, based on credit hours earned, TSI status, High School rank, major declaration.
		14	**Semester Total Hours**					
FIRST YEAR – SPRING		3	Choose 1	Communication (Core)	C	010	For all 010 courses: Satisfactory scores on English portion of ACT test and TSI examination or ENGL 0301. For ENGL 1302, a grade of "C" or better in ENGL 1301.	See General Education Core for more details Options: ENGL 1302 or ENGL 1305.
		4	MATH 2414	Calculus II	C		MATH 2413 with a grade of 'C' or better.	
		3	CSCI 1370	Computer Science I for Majors	C		Grade of 'C' or better in any of the following: MATH 1314, MATH 1414 or placement in a higher level Math course (MATH 2412, MATH 2413) and credit for or concurrent enrollment in CSCI 1101 or CMPE 1101. Co-requisite: CSCI 1170.	
		1	CSCI 1170	Computer Science I Laboratory for Majors	C		Co-requisites: CSCI 1370.	
		4	PHYS 2425	Physics for Scientists and Engineers I (Core)		030	MATH 2413 and concurrent enrollment in MATH 2414.	1 hour of lab for Core 090. See General Education Core for more details.
		15	**Semester Total Hours**					

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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 with a grade of 'C' or better.	
		3	CSCI 2380	Computer Science II	C		Grade of C or better in: [CSCI 1370 or CMPE 1370] and [CSCI 1170 or CMPE 1170].	
		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/MASC 2327
		3	CMPE 2330	Digital Systems Engineering I	C		Credit/registration in CMPE 1101, ELEE 1101, or CSCI 1101.	
		1	CMPE 2130	Digital Systems Engineering I Lab	C		Credit/registration for CMPE/ELEE 2330.	
		16	**Semester Total Hours**					
SECOND YEAR – SPRING		3	CSCI 3333	Algorithms and Data Structures	C		Grade of C or better in: [CSCI 3310 or MATH 2346 or MATH 2305] and [CSCI 2380 or CMPE 2380].	
		4	PHYS 2426	Physics for Scientists and Engineers II (Core)		030	PHYS 2425.	1 hour of lab for Core 090. See General Education Core for more details.
		3	CMPE 2320	Electric Circuits I	C		Grade of 'C' or better in MATH 2414 and CMPE 1101/ELEE 1101 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	Texas Government & Politics		070		
		3	CHEM 1309	Chemistry for Engineers			MATH 1314, MATH 1414, MATH 2412, MATH 2413 or with a grade of "C" or higher.	or CHEM 1311
		1	CHEM 1109	Chemistry for Engineers Lab (Core)		090	Credit/registration in CHEM 1309	or CHEM 1111
		18	**Semester Total Hours**					

		!	H	Course #	Course Title	Min. Grade	GEC	Prerequisite	Additional Notes
THIRD YEAR	FALL		3	CSCI 3340	Software Engineering I	C		Grade of C or better in: [3 advanced hours in CSCI or CMPE] and [CSCI 2380 or CMPE 2380].	
			3	CSCI 2333	Computer Org. and Assembly Language	C		Grade of C or better in: [CSCI 1370 or CMPE 1370] and [CSCI 1170 or CMPE 1170].	
			3	MATH 3341	Differential Equations	C		MATH 2414 with a grade of C or better	
			3	CSCI 3334	Systems Programming	C		Grade of C or better in: [CSCI 2380 or CSCI 2388 or CMPE 2380 or CMPE 2388] and [CSCI 2333 or CMPE 2333 or ELEE 3435 or CMPE 3437].	
			4	CMPE 3403	Electronics for Computer Engineering	C		[CMPE 2320 or ELEE 2305] and [CMPE 2330 or ELEE 2330] and [ELEE 2105 or CMPE 2120] with a grade of C or better.	
			16	**Semester Total Hours**					
	SPRING		3	CMPE 3331	Microcontroller and Embedded Systems Lab	C		CMPE 3437 or ELEE 3435.	
			3	PHIL 2326	Ethics, Technology, and Society		040		
			3	CSCI 4333	Database Design and Implementation	C		Grade of C or better in: CSCI 3333 or CMPE 3333.	
			3	CSCI 3326 or CSCI 3328	Object Oriented Programming in Java or C #	C		Grade of C or better in: [CSCI 1370 or CMPE 1370] and [CSCI 1170 or CMPE 1170].	Can also take CMPE 3328: Objective-Oriented Programming in C#
			3	CMPE 4335	Computer Architecture	C		Grade of C or better in: [CSCI 2333 or CMPE 2333] and [CSCI 2380 or CSCI 2388 or CMPE 2380 or CMPE 2388].	
			3	CMPE 4303	Digital Systems Engineering II	C		Grade of C or better in: CMPE/ELEE 2330 or consent of instructor.	
			18	**Semester Total Hours**					

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FOURTH YEAR	FALL		3	CMPE 3343 or STAT 3337	Probability and Statistics	C		Math 2414 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/MASC 2328.
			3	Choose 1	Prescribed Elective	C			See Degree for course options. 5 hours required - may take one (2) credit and one (3) credit technical elective.
			3	CSCI 4345	Computer Networks	C		Grade of C or better in: [CSCI 2380 or CMPE 2380] and [CSCI 2333 or CMPE 2333 or ELEE 3435 or CMPE 3437].	
			3	CMPE 4371	Senior Design I Software	C		[Grade of C or better in: CSCI 3340 or CMPE 3340] and Consent of instructor.	
			15	**Semester Total Hours**					
	SPRING		3	Choose 1	Creative Arts (Core)		050		See General Education Core for course options.
			3	CSCI 3341	Software Engineering II	C		Grade of C or better in: CSCI 3340 or CMPE 3340.	
			3	CSCI 4334	Operating Systems	C		Grade of C or better in: [CSCI 2333 or CMPE 2333] and [CSCI 2380 or CSCI 2388 or CMPE 2380 or CMPE 2388].	
			2	Choose 1	Prescribed Elective	C			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		Grade of C or better in: CMPE 4371 and consent of instructor.	
			14	**Semester Total Hours**					

Major Graduation Requirements

1. 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.
2. All courses in the major requirements including the concentration must be completed with a grade of 'C' or better.

CORE: The 2021-2022 list of core courses can be found in the 2021-2022 Undergraduate Catalog: www.utrgv.edu/catalog > See 'Core Curriculum'

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.

126 TOTAL (42 advanced minimum credit hours)

Approved: Friday, March 12, 2021
Revised: Monday, March 1, 2021