

Bachelor of Science (BS)

Physics

Pure and Applied Physics

The 2026-2027 list of core courses can be found in the 2026-2027 Undergraduate Catalog: www.utrgv.edu/catalog > See 'Bachelors Degree Program Regulations'

Symbols Key										
Campus: B - Offered in Brownsville; E - Offered in Edinburg; O - Offered Online; T - Travel Required										
Bolted Course Number*: Program Admission Requirement										
Min Grade: A - Excellent; B - Good; C - Satisfactory; D - Below Average; CR - Credit; P - Passing; S - Satisfactory.										
Core: 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;										
Core: 090 - Applied Communication and Literacies; Humanities; Leadership; Science Labs; Interdisciplinary; Technologies; Language Diversity & Writing										
Year	Semester	Credit Hours	Campus	Course Number	Course Title	Minimum Grade	Core	Prerequisite	Additional Notes	
1	Fall	3	B/E/O	Choose 1	Communication	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 1301	
1	Fall	4	B/E/O	MATH 2413	Calculus I	C	020	MATH 2412 with a grade of 'C' or better; or passing the Precalculus Exemption Test administered by the Department of Mathematics.		
1	Fall	3	B/E/O	Choose 1	American History		060		See General Education Core for more details. Options: HIST 1301 or HIST 2327	
1	Fall	3	B/E/O	PHYS 2380	Special Topics in Physics			Consent of the instructor.	In lieu of PHYS 2380, students may take a 3-credit hour STEM course with the following prefix: ASTR, BIOL, CSCI, CHEM, EECE, ENGR, ENGT, ENST, ENVR, GEOG, GEOL, MARS, MATH, MECE, PHYS or PSCI. PHYS 1401, PHYS 1402, PSCI 1421 and PSCI 1422 cannot be used to satisfy this requirement.	
1	Fall		B/E/O	UNIV	1301 Learning Framework 1101 Academic and Career Success 1001/1300 Living and Working by Design				As required, based on a number of factors such as credit hours earned, TSI status, high school rank, major declaration, etc.	
1	Fall	13		Semester Total Hours						
1	Spring	3	B/E/O	Choose 1	Communication	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	
1	Spring	4	B/E/O	MATH 2414	Calculus II	C		MATH 2413 (or MATH 2487) with a grade of 'C' or better.		
1	Spring	4	B/E/O	PHYS 2425	Physics for Scientists and Engineers I		030/ 090	MATH 2413.		
1	Spring	3	B/E/O	Choose 1	American History		060		See General Education Core for more details. Options: HIST 1302 or HIST 2328	
1	Spring	3	B/E	CSCI 1380	Introduction to Programming in Python		090	Concurrent enrollment or credit for MATH 1314 or higher level mathematics course.		
1	Spring	17		Semester Total Hours						
Year	Semester	Credit Hours	Campus	Course Number	Course Title	Minimum Grade	Core	Prerequisite	Additional Notes	
2	Fall	4	B/E/O	MATH 2415	Calculus III			MATH 2414 (or MATH 2488) with a grade of 'C' or better.		
2	Fall	4	B/E/O	PHYS 2426	Physics for Scientists and Engineers II		030/ 090	PHYS 2425 and MATH 2414.		
2	Fall	3	B/E/O	POLS 2305	U.S. Federal Government & Politics		070		See General Education Core for more details	
2	Fall	3	B/E/O	Choose 1	Advanced Science Elective				See Degree Plan for course options.	
2	Fall	3	O	PHYS 2327	Physics for Scientists and Engineers III			PHYS 2425 (or PHYS 2411). Students may take this course concurrently with PHYS 2426.		
2	Fall	17		Semester Total Hours						
2	Spring	3	B/E/O	MATH 3341	Differential Equations			MATH 2414 (or MATH 2488) with a grade of 'C' or better.		
2	Spring	3	B/E/O	Choose 1	Advanced Science Elective				See Degree Plan for course options.	
2	Spring	4	B/E	PHYS 3402	Modern Physics			PHYS 2426 (or the former PHYS 2412) and PHYS 2327 (or the former PHYS 2313).	Physics core requirement. Only offered in the Spring Semester.	
2	Spring	3	B/E/O	POLS 2306	Texas Government & Politics		070		See General Education Core for more details	
2	Spring	3	B/E/O	Choose 1	Creative Arts		050		See General Education Core for course options.	
2	Spring	16		Semester Total Hours						

Year	Semester	Credit Hours	Campus	Course Number	Course Title	Minimum Grade	Core	Prerequisite	Additional Notes	
3	Fall	3	B/E	PHYS 3303	Thermodynamics			MATH 2415 and PHYS 2426 (or the former PHYS 2412) and PHYS 2327 (or the former PHYS 2313).	Physics core requirement.	
3	Fall	3	B/E/O	PHYS 4306 or 4101	Advanced Physics Lab or Laboratory Research			PHYS 3402.	Choose either PHYS 4306 or 4101. PHYS 4101 to be taken three times with consent of an instructor.	
3	Fall	4	B/E	PHYS 3411	Math Methods in Physics I			MATH 3341.	Physics core requirement.	
3	Fall	3	B/E	PHYS 3305	Classical Mechanics			PHYS 2426 and MATH 2415.	Physics core requirement.	
3	Fall	3	B/E/O	Choose 1	Advanced Science Elective				See Degree Plan for course options.	
3	Fall	16	Semester Total Hours							
3	Spring	4	B/E	PHYS 3412	Math Methods in Physics II			PHYS 3411 or PHYS 3311	Physics core requirement.	
3	Spring	3	B/E/O	Choose 1	Social and Behavioral Sciences		080		See General Education Core for course options.	
3	Spring	3	B/E	PHYS 4305	Statistical Mechanics			PHYS 3303 and [PHYS 3411 or PHYS 3311].	Physics core requirement.	
3	Spring	3	B/E/O	Choose 1	Language, Philosophy & Culture		040		See General Education Core for course options.	
3	Spring	3	B/E/O	PHYS 33XX-43XX	Advanced Physics Elective				See degree plan for course options.	
3	Spring	16	Semester Total Hours							
Year	Semester	Credit Hours	Campus	Course Number	Course Title	Minimum Grade	Core	Prerequisite	Additional Notes	
4	Fall	3	B/E	PHYS 4303	Quantum Mechanics I			PHYS 3305 and [PHYS 3411 or PHYS 3311].	Physics core requirement.	
4	Fall	3	B/E/O	PHYS 33XX-43XX	Advanced Physics Elective				See Degree Plan for course options.	
4	Fall	3	B/E/O	PHYS 33XX-43XX	Advanced Physics Elective				See Degree Plan for course options.	
4	Fall	3	B/E	PHYS 3301	Electromagnetic Theory I			MATH 2415 and either PHYS 2426 or PHYS 2412.	Physics core requirement.	
4	Fall	12	Semester Total Hours							
4	Spring	3	B/E	PHYS 3302	Electromagnetic Theory II			PHYS 3301.	Physics core requirement.	
4	Spring	1	B/E/O	Choose 1	Integrative/Experiential Learning Option		090		See General Education Core for course options.	
4	Spring	3	B/E	PHYS 4304	Quantum Mechanics II			PHYS 4303.	Physics core requirement.	
4	Spring	3	B/E/O	PHYS 4300	Undergraduate Research Project			Senior standing in the Physics Degree Program and consent of a supervising faculty member.	Capstone.	
4	Spring	3	B/E	PHYS 3304	Optics			MATH 2415 and PHYS 2426 (or the former PHYS 2412) and PHYS 2327 (or the former PHYS 2313).	Physics core requirement. Only offered in the Spring Semester.	
4	Spring	13	Semester Total Hours							
		120	TOTAL HOURS							
		(42)	Advanced minimum credit hours							