The University of Texas Rio Grande Valley Bachelor of Science (BS) Physics Focus: 7th - 12th Grade UTeach Certification

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· H	Course #	Course Title	Min. GEC Grade	Prerequisite	Additional Notes
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	C 020	MATH 2412 with a grade of 'C' or better; or passing the Precalculus Exemption Test administered by the Department of Mathematics.	Three Hour Lecture will satisfy the general education core C Hour Lecture will satisfy the major requirement.
3	Choose 1	American History (Core)	060		See General Education Core for more details. Options: HIST 1301 or HIST 1387(H) or HIST/MASC 2327
3	Choose 1	Social and Behavioral Sciences (Core)	080		See General Education Core for course options.
3	Choose 1	Creative Arts (Core)	050		See General Education Core for course options.
1	UTCH 1101	Inquiry Approaches to Teaching	С	Must be a Math or Science Major	UTeach requirement: TB Vaccine and Criminal Background Check
	UNIV 1301	Learning Framework			Only if required, based on ACT/SAT and high school rank.
17 S	emester Total H	ours			
3	Choose 1	Communication (Core)	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	С	MATH 2413 (or MATH 2487) with a grade of 'C' or better.	
4	PHYS 2425	Physics for Scientists and Engineers I	C 030/090	MATH 2413 (or MATH 2487) and concurrent enrollment in MATH 2414 (or MATH 2488).	It is mandatory for students pursuing a BS in Pysics to take face-to-face (onsite) lecture sections for PHYS 2425/2426
3	Choose 1	American History (Core)	060		See General Education Core for more details. Options: HIST 1302 or HIST 1388 (H) or HIST/MASC 2328
3	CSCI 1380	Computer Science I	090	Concurrent enrollment or credit for MATH 1314 or higher level mathematics course.	
1		Inquiry-Based Lesson Design	С	UTCH 1101 with a grade of "C"	UTeach requirement
	emester Total H		Min. GEC		
· H	Course #	Course Title	Grade		Additional Notes
4	MATH 2415		C	MATH 2414 (or MATH 2488) with a grade of 'C' or better.	
3	Choose 1	Language, Philosophy & Culture (Core)	040		See General Education Core for course options.
4	PHYS 2426	Physics for Scientists and Engineers II	030/090	PHYS 2425.	It is mandatory for students pursuing a BS in Pysics to take face-to-face (onsite) lecture sections for PHYS 2425/2426
3	Choose 1	Government/Political Science (Core)	070		See General Education Core for more details Options: POLS 2305 or POLS 2385 (H)
3	PHYS 3330	Functions and Modeling		A grade of 'C' or better in the following: MATH 2413 (or MATH 2487) and UTCH 1102.	UTeach requirement
17 S	emester Total H	ours			
3	MATH 3341	Differential Equations		MATH 2414 (or MATH 2488) with a grade of 'C' or better.	
3	MATE 3317	Perspective in Mathematics and Science		MATE 3321, BIOL 3330, or PHYS 3330 with a grade of "C" or better.	UTeach requirement; Alternative: PHIL 3317
4	PHYS 3402	Modern Physics		PHYS 2426	Physics core requirement.
3	UTCH 3301	Knowing and Learning in Mathematics and Science	С	UTCH 1101 and UTCH 1102 with a grade of "C" or better or concurrent enrollment with UTCH 1102 with consent of Uteach Advisor.	
3	Choose 1	Government/Political Science (Core)	070		See General Education Core for more details Options: POLS 2306 <b>or</b> POLS 2386 (H)
1	Choose 1	Integrative/Experiential Learning Option (Core)	090		See General Education Core for course options.
1	Choose 1 emester Total Hour	8 I	g Option (Core)	ig Option (Core) 090	Ig Option (Core) 090

## CORE: The 2019-2020 list of core courses can be found at: www.utrgv.edu > Academics > Undergraduate > General Education Core

www.utrgv.edu/core

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; assing; S - 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.

! H	Course #	Course Title	Min. GEC Grade	Prerequisite	Additional Notes
3	9 PHYS 3305	Classical Mechanics		PHYS 2426 and MATH 2415.	Physics core requirement.
4	PHYS 3411	Math Methods for Physicist I		MATH 3341	Physics core requirement.
EALL	PHYS 3303	Thermodynamics		MATH 2415 and either PHYS 2412 or PHYS 2426.	Physics core requirement.
3	UTCH 3302	Classroom Interactions	С	(a) A University grade point average of at least 2.75, (b) UTCH 3301 with a grade of "C" and admission to Teacher Education Program.	UTeach requirement
3	x3xx - x3xx	Free Elective			Language Proficiency Requirement (as needed)
1	6 Semester Total	Hours			
3	x3XX - X3XX	Free Elective			Language Proficiency Requirement (as needed)
3	9 PHYS 4305	Statistical Mechanics		PHYS 3303 and PHYS 3311.	Physics core requirement.
SPRING 2	PHYS 4101	Senior Laboratory Research		Consent of instructor.	Physics core requirement.
3	READ 4305	Disciplinary Literacy in Content Area Classrooms			
3	UTCH 3303	Project-Based Instruction	С	(a) University grade point average of at least 2.75, (b) UTCH 3302 with a grade of	UTeach requirement
i i	0101 3303	Froject-Dased Instruction	Ŭ	"C".	
	3 Semester Total	•		"C".	
	3 Semester Total	•	Min. GEC Grade	"C". Prerequisite	Additional Notes
1	3 Semester Total	Hours			
1 • н	3 Semester Total Course # B PHYS 3304	Hours Course Title		Prerequisite	- Additional Notes
1 • H	3 Semester Total Course # PHYS 3304 PHYS 3301	Hours Course Title Optics		Prerequisite MATH 2415 and either PHYS 2412 or PHYS 2426.	Additional Notes Physics core requirement.
1 · H 3 3	3 Semester Total           Course #           PHYS 3304           PHYS 3301           PHYS 4303	Hours Course Title Optics Electromagnetic Theory I		Prerequisite MATH 2415 and either PHYS 2412 or PHYS 2426. MATH 2415 and either PHYS 2426 or PHYS 2412.	Additional Notes Physics core requirement. Physics core requirement.
1 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	Bit PHYS         PHYS	Hours Course Title Optics Electromagnetic Theory I Quantum Mechanics I Undergraduate Research Research Methods		Prerequisite MATH 2415 and either PHYS 2412 or PHYS 2426. MATH 2415 and either PHYS 2426 or PHYS 2412. PHYS 3305 and PHYS 3311. Senior standing in the Physics Degree Program and consent of a supervising	Additional Notes Physics core requirement. Physics core requirement. Physics core requirement.
1 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 Semester Total           Course #           PHYS 3304           PHYS 3301           PHYS 4303           PHYS 4300	Hours Course Title Optics Electromagnetic Theory I Quantum Mechanics I Undergraduate Research Research Methods		Prerequisite         MATH 2415 and either PHYS 2412 or PHYS 2426.         MATH 2415 and either PHYS 2426 or PHYS 2412.         PHYS 3305 and PHYS 3311.         Senior standing in the Physics Degree Program and consent of a supervising faculty member.	Additional Notes Physics core requirement. Physics core requirement. Physics core requirement. Capstone
1 3 3 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	3 Semester Total           Course #           Course #           PHYS 3304           PHYS 3301           PHYS 4303           PHYS 4300           PHYS 4392           Semester Total	Hours Course Title Optics Electromagnetic Theory I Quantum Mechanics I Undergraduate Research Research Methods		Prerequisite         MATH 2415 and either PHYS 2412 or PHYS 2426.         MATH 2415 and either PHYS 2426 or PHYS 2412.         PHYS 3305 and PHYS 3311.         Senior standing in the Physics Degree Program and consent of a supervising faculty member.	Additional Notes Physics core requirement. Physics core requirement. Physics core requirement. Capstone
	3 Semester Total           Course #           PHYS 3304           PHYS 3301           PHYS 4303           PHYS 4300           PHYS 4392           Semester Total           UTCH 4101	Hours Course Title Optics Electromagnetic Theory I Quantum Mechanics I Undergraduate Research Research Methods Hours	Min. GEC	Precodicide MATH 2415 and either PHYS 2412 or PHYS 2426. MATH 2415 and either PHYS 2426 or PHYS 2412. PHYS 3305 and PHYS 3311. Senior standing in the Physics Degree Program and consent of a supervising faculty member. Grade C or better in the following: MATH 2413 (or MATH 2487) and UTCH 1102. An institutional grade point average of at least 2.75 and UTCH 3303 with a grade	Additional Notes Physics core requirement. Physics core requirement. Physics core requirement. Capstone UTeach requirement

Note

This program leads to a profession which requires an occupational license as defined under Texas Occupations Code 58.001. This requires that all applicants seeking to become licensed must undergo a criminal background check prior to licensure. Students in this program should check with the College of Education and P-16 Integration on the requirements for a criminal background check prior to student teaching.

## Progression Requirements:

Admission to the College of Education and P-16 Integration is required for participation in Apprentice Teaching and Seminar (UTCH 4101, 4601). Students unable to be admitted to UTCH 4601 and UTCH 4101 will be required to substitute 7 advance hours, as recommended by advisor.

120 TOTAL HOURS

(61) TOTAL ADVANCED HOURS

Approved: Thursday, April 4, 2019 Revised: Monday, May 6, 2019