

Bachelor of Science (BS) Physics

Concentration: Teacher Certification

For all 010 courses: Satisfactory scores on English portion of ACT test and TSI See General Education Core for more details. Communication (Core) С 010 Choose 1 examination or ENGL 0301. For ENGL 1302, a grade of "C" or better in ENGL 1301. Options: ENGL 1301 MATH 2412 with a grade of 'C' or better; or passing the Precalculus Exemption Test MATH 2413 Calculus I С 020 administered by the Department of Mathematics. See General Education Core for more details. Choose 1 American History (Core) 060 Options: HIST 1301 or HIST 2327 3 Choose 1 Social and Behavioral Sciences (Core) 080 See General Education Core for course options. 3 PHYS 1311 Learning to be a Physicist Physics core requirement. A criminal background check will be required and a tuberculosis test may be required before the first field experience. Special permission UTCH 1101 Inquiry Approaches to Teaching C Must be a Mathematics or Science Major. from a UTeach co-director is required to enroll in UTCH 1101 and UTCH 1102 concurrently. 1301 Learning Framework As required, based on credit hours earned, TSI status, High school rank, UNIV 1101 Academic and Career Success major declaration. 1001 Living and Working by Design 17 Semester Total Hours For all 010 courses: Satisfactory scores on English portion of ACT test and TSI See General Education Core for more details. Communication (Core) 010 Choose 1 examination or ENGL 0301. For ENGL 1302, a grade of "C" or better in ENGL 1301. Options: ENGL 1302 or ENGL 1305 MATH 2414 Calculus II С MATH 2413 with a grade of 'C' or better. PHYS 2425 Physics for Scientists and Engineers I 030/090 MATH 2413 and concurrent enrollment in MATH 2414. See General Education Core for more details. Choose 1 American History (Core) 060 Options: HIST 1302 or HIST 2328 3 CSCI 1380 Computer Science I Concurrent enrollment or credit for MATH 1314 or higher level mathematics course. Students will begin developing their UTeach Portfolio. May be taken С UTCH 1102 Inquiry-Based Lesson Design UTCH 1101 with a grade of "C" concurrently with UTCH 3301. 18 Semester Total Hours Additional Note 4 MATH 2415 Calculus III MATH 2414 with a grade of 'C' or better. 3 Choose 1 Creative Arts (Core) 050 See General Education Core for course options. PHYS 2426 Physics for Scientists and Engineers II 030/090 PHYS 2425. 3 PHYS 2327 Physics for Scientists and Engineers III PHYS 2425. Students may take this course concurrently with PHYS 2426. See General Education Core for more details. 3 POLS 2305 U.S. Federal Government & Politics 070 See General Education Core for more details. 17 Semester Total Hours MATH 3341 **Differential Equations** MATH 2414 and MATH 2318 with a grade of 'C' or better. 4 PHYS 3402 Modern Physics PHYS 2426 and PHYS 2327. Physics core requirement. Only offered in the Spring Semester. **BIOL 3330** A grade of 'C' or better in the following: MATH 2413 and UTCH 1102. Functions and Modeling UTeach requirement 3 POLS 2306 Texas Government & Politics 070 See General Education Core for more details. Language, Philosophy & Culture (Core) 040 3 Choose 1 See General Education Core for course options. 090 Choose 1 Integrative/Experiential Learning Option (Core) See General Education Core for course options. 17 Semester Total Hours Must apply to Teacher Education Program.

CORE: The 2022-2023 list of core courses can be found in the 2022-2023 Undergraduate Catalog: www.utrgv.edu/smartcatalog > Bachelors Degree Regulations and Graduation Policies > '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.

2022-2023

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3	PHYS 3305	Classical Mechanics		PHYS 2426 and MATH 2415.	Physics core requirement.	
4	PHYS 3411	Math Methods for Physics I		MATH 3341	Physics core requirement.	
3	MATE 3317	Perspective in Mathematics and Science		MATE 3321, BIOL 3330, or PHYS 3330 with a grade of "C" or better.	UTeach 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.	UTeach requirement	
3	PHYS 3303	Thermodynamics		MATH 2415 and PHYS 2426 and PHYS 2327	Physics core requirement.	
¥ 16	16 Semester Total Hours					
3 3	UTCH 3302	Classroom Interactions	С	(a) University grade point average of at least 2.75, (b) UTCH 1102 with a grade of 'C' or better, (c) UTCH 3301 with a grade of 'C' or better, and (d) admission to the Teacher Education Program.	UTeach requirement	
3	PHYS 4305	Statistical Mechanics		PHYS 3303 and PHYS 3311.	Physics core requirement.	
1 Spring	PHYS 4101	Laboratory Research		Consent of instructor.	Physics core requirement.	
3	PHYS 3304	Optics		MATH 2415 and PHYS 2426 and PHYS 2327.	Physics core requirement. Only offered in the Spring Semester.	
3	READ 4305	Disciplinary Literacy in the Classrooms				
13	Semester Total Hours					
т н	Course #	Course Title	Min. GEC Grade	Prerequisite	Additional Notes	
3	Course # PHYS 3301	Course Title Electromagnetic Theory I	Min. GEC Grade	Prerequiste MATH 2415 and PHYS 2426.	Additional Notes Physics core requirement.	
			Min. GEC Grade			
3	PHYS 3301	Electromagnetic Theory I	Min. GEC Grade	MATH 2415 and PHYS 2426.	Physics core requirement.	
3	PHYS 3301 PHYS 4303	Electromagnetic Theory I Quantum Mechanics I Research Methods in the Science and Mathematics Classroom (UTEACH) or Research Methods in Middle and Secondary	Min. GEC Grade C	MATH 2415 and PHYS 2426. PHYS 3305 and PHYS 3311.	Physics core requirement. Physics core requirement.	
3 3	PHYS 3301 PHYS 4303 BIOL/MATE 4392	Electromagnetic Theory I Quantum Mechanics I Research Methods in the Science and Mathematics Classroom (UTEACH) or Research Methods in Middle and Secondary School Math		MATH 2415 and PHYS 2426. PHYS 3305 and PHYS 3311. Grade C or better in the following: MATH 2413 and UTCH 1102.	Physics core requirement. Physics core requirement. UTeach requirement	
очети уеди	PHYS 3301 PHYS 4303 BIOL/MATE 4392 UTCH 3303	Electromagnetic Theory I Quantum Mechanics I Research Methods in the Science and Mathematics Classroom (UTEACH) or Research Methods in Middle and Secondary School Math Project-Based Instruction		MATH 2415 and PHYS 2426. PHYS 3305 and PHYS 3311. Grade C or better in the following: MATH 2413 and UTCH 1102. (a) University grade point average of at least 2.75, (b) UTCH 3302 with a grade of "C". Senior standing in the Physics Degree Program and consent of a supervising faculty	Physics core requirement. Physics core requirement. UTeach requirement UTeach requirement	
очети уеди	PHYS 3301 PHYS 4303 BIOL/MATE 4392 UTCH 3303 PHYS 4300	Electromagnetic Theory I Quantum Mechanics I Research Methods in the Science and Mathematics Classroom (UTEACH) or Research Methods in Middle and Secondary School Math Project-Based Instruction		MATH 2415 and PHYS 2426. PHYS 3305 and PHYS 3311. Grade C or better in the following: MATH 2413 and UTCH 1102. (a) University grade point average of at least 2.75, (b) UTCH 3302 with a grade of "C". Senior standing in the Physics Degree Program and consent of a supervising faculty	Physics core requirement. Physics core requirement. UTeach requirement UTeach requirement	
очети уеди	PHYS 3301 PHYS 4303 BIOL/MATE 4392 UTCH 3303 PHYS 4300	Electromagnetic Theory I Quantum Mechanics I Research Methods in the Science and Mathematics Classroom (UTEACH) or Research Methods in Middle and Secondary School Math Project-Based Instruction		MATH 2415 and PHYS 2426. PHYS 3305 and PHYS 3311. Grade C or better in the following: MATH 2413 and UTCH 1102. (a) University grade point average of at least 2.75, (b) UTCH 3302 with a grade of "C". Senior standing in the Physics Degree Program and consent of a supervising faculty	Physics core requirement. Physics core requirement. UTeach requirement UTeach requirement Capstone	
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	PHYS 3301 PHYS 4303 BIOL/MATE 4392 UTCH 3303 PHYS 4300 Semester Total Hours	Electromagnetic Theory I Quantum Mechanics I Research Methods in the Science and Mathematics Classroom (UTEACH) or Research Methods in Middle and Secondary School Math Project-Based Instruction Undergraduate Research Project	C	MATH 2415 and PHYS 2426. PHYS 3305 and PHYS 3311. Grade C or better in the following: MATH 2413 and UTCH 1102. (a) University grade point average of at least 2.75, (b) UTCH 3302 with a grade of "C". Senior standing in the Physics Degree Program and consent of a supervising faculty member. (a) University grade point average of at least 2.75, (b) UTCH 3303 with a grade of "C" or better, (c) concurrent enrollment with UTCH 4601, (d) successful completion of PPR and	Physics core requirement. Physics core requirement. UTeach requirement UTeach requirement Capstone UTeach requirement	

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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.

Major Admission Requirements

Admission to the Teacher Education Program at the Office of Educator Preparation and Accountability is required for completion of teacher certification requirements with the undergraduate degree. All admission requirements are in accordance to Texas Administrative Code rules §227.10 and the HEA Title II accountability requirements. All applicants must meet the current certification requirements in effect at the time of application, regardless of the catalog year of degree. plan.

Major Progression Requirements

Teacher Education Program progression requirements include GPA, course grades, certification courses, benchmarks/key assessments and testing. 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 hours, as recommended by advisor. A Physics Major with Physics/Mathematics (7-12) Teacher Certification would initially focus on the Math prerequisites courses (support courses listed above), in taking the PHYS 2425/2426 course sequence, and in taking the UTCH 1101 and UTCH 1102 course sequence.

120 TOTAL HOURS

(42) Advanced minimum credit hours

Approved: Friday, December 9, 2022 Revised: Tuesday, December 6, 2022