Fast-Track Bachelors to Masters Physics with Teaching Emphasis

Physics B.S. with Teaching Emphasis (Fast-Track Bachelors + Masters)

The Physics B.S. with Teaching Emphasis is designed for students who wish to teach physics at the middle or high school level. It provides a broad but rigorous background in the physics and chemistry needed by successful teachers, and includes an advanced physics education course designed specifically for majors in this program.

The Fast-Track Bachelors + Masters degree program allows undergraduate students in the Physics with Teaching Emphasis to begin coursework towards the Master of Arts in Physics with Teaching Emphasis during their senior year at East Texas A&M University. Students can earn a B.S. and M.A. degree in five years upon completion of degree requirements for both degrees. For this Fast-Track Bachelors + Masters program, 6 credits of graduate courses can be applied to the undergraduate degree. Students must apply to the Fast-Track Bachelors + Masters program by the end of their junior year after having completed at least 90 hours of undergraduate courses with a cumulative undergraduate GPA of 3.0 or higher, and a GPA of 3.0 or higher in physics courses. Additionally, students should have taken certain upper-level courses in their junior year to ensure they can be successful taking graduate courses while completing their student teaching experience in their senior year.

Core Curriculum Courses		
See the Core Curriculum Requirements (https://coursecatalog.tamuc.edu/undergrad/core-curriculum-requirements/)		42
Teacher Certification, 6-12 Physical Science		
Required courses in the major		
PHYS 101	Physics and Astronomy Seminar	1
PHYS 2425	University Physics I *	
PHYS 2426	University Physics II *	
PHYS 317	Mathematical Methods for Physics and Engineering	3
PHYS 321	Modern Physics	3
PHYS 333	Wave Motion, Acoustics, and Optics	4
PHYS 345	Teaching and Learning Physics	3
PHYS 371	Science and Math Education Theory and Practice	2
or PHYS 401	Current Topics in Physics and Astronomy	
Choose two of following:		6
PHYS 411	Classical Mechanics	3
PHYS 412	Electricity and Magnetism	3
PHYS 420	Quantum Mechanics	3
PHYS 335	Advanced Physics Laboratory	3
or PHYS 319	Computational Physics with Python	
PHYS Elective (ADV)		4
CHEM 1111	General and Quantitative Chemistry Laboratory I	1
CHEM 1311	General and Quantitative Chemistry I	3
CHEM 1112	General and Quantitative Chemistry Laboratory II	1
CHEM 1312	General and Quantitative Chemistry II	3
CHEM 351	Physical Chemistry	4
Teacher Education courses (LeoTeach Sequence)		
PSY 300	Learning Processes and Development	3
SED 330	Special Populations and Diverse Learners	3
SED 331	Instructional Design	3
SED 332	Creating an Engaging Learning Environment	3
RDG 380	Comprehension and Vocabulary in Middle and High Schools	3
SED 400	Issues of Professsionalism	3
SED 401	Technology Infused Curriculum and Assessment in Field-based Environments	3
SED 404	Secondary Clinical Teaching	3
SED 405	Advanced Issues of Professionalism	6
Support courses		

MATH 2413	Calculus I *	
MATH 2414	Calculus II *	
MATH 2415	Calculus III	4
Graduate Core Courses		
PHYS 531A	Classical Mechanics: Analysis and Applications	3
PHYS 532A	Electromagnetism: Analysis and Applications	3
Total Hours		**120**

*
This course should be used to satisfy the core curriculum requirements.
A grade of “C” or higher must be earned in all courses in this Major.