

Physics BA Course Requirements

Designed for students looking to build a career grounded in physical principles coupled with other fields of study. The BA degree requires fewer major and allied courses than the BS degree, allowing students to tailor a path that fits well with premed, engineering, education, mathematics, or other interests. For more information please see www.stthomas.edu/physics

Major Courses:

PHYS 211	Introduction to Classical Physics I	(4 credits)
PHYS 212	Introduction to Classical Physics II	(4 credits)
PHYS 215	Foundations of Modern Physics	(4 credits)
PHYS 225	Applications of Modern Physics	(4 credits)
Plus		
4 credits from the following:		(4 credits)
PHYS 323	Methods of Experimental Physics	
PHYS 325	Methods of Computational Physics	
ENGR 481	Engineering Design Clinic II	
Plus		
8 additional Physics elective credits		(8 credits)
Plus		
8 additional Physics or Allied elective credits		(8 credits)

Required Allied Courses:

MATH 113	Calculus I	(4 credits)
MATH 114	Calculus II	(4 credits)
MATH 200	Multi-Variable Calculus	(4 credits)
MATH 210	Intro to Differential Equations	(4 credits)
CISC 130 or CISC 131	Intro to Programming in Sciences Intro to Programming	(4 credits)

Physics Elective Courses:

Any PHYS course numbered 150 or above, including:		
PHYS 323	Methods of Experimental Physics	(4 credits)
PHYS 325	Methods of Computational Physics	(4 credits)
PHYS 331	Theoretical Mechanics	(4 credits)
PHYS 341	Electricity and Magnetism	(4 credits)
PHYS 347	Optics	(4 credits)
PHYS 354	Astrophysics	(4 credits)
PHYS 410	Statistical Mechanics	(4 credits)
PHYS 431	Quantum Mechanics	(4 credits)
PHYS 491	Individual Research	(2 or 4 credits)

Allied Elective Courses: *

CHEM 320	Instrumental Analysis	(4 credits)
CHEM 331	Chemical Thermodynamics	(4 credits)
CHEM 332	Quantum Chemistry	(4 credits)
MATH 240	Linear Algebra	(4 credits)
Engineering courses at or above ENGR 200.		
Mathematics courses at or above MATH 300.		
Computer and Information Sciences courses at or above CISC 230.		

Additional Physics and Allied Elective Courses for Education co-Majors: *

One of
 PHYS 104 Astronomy or
 PHYS 105 Musical Acoustics
 Biology courses at or above BIOL 207.
 Chemistry courses at or above CHEM 109.
 Engineering courses at or above ENGR 100.
 Geology courses at or above GEOL 111.

*Not all possible Allied Elective courses are listed. Check with the Physics Department Chair about specific courses.

Major and Physics/Allied Elective Courses:
36 credits

Required Allied Courses:
20 credits

Core Curriculum and Free Elective Courses:
73 credits

Physics BA
129 credits

Degree Planning Guide

These suggested schedules are great planning resources, but it is critical that you discuss your specific academic plans with a physics advisor. If you do not have a physics advisor, please contact the Physics Departmental Chair to discuss your options.

Physics BA (recommended courses starting with MATH 114)

Freshman (<28 credits)	Sophomore (28-59 credits)	Junior (60-91 credits)	Senior (92+ credits)
Semester 1 PHYS 211 MATH 114	Semester 1 PHYS 215 MATH 210	Semester 1 PHYS elective PHYS or Allied elective	Semester 1 PHYS elective
Semester 2 PHYS 212 CISC 131 MATH 200	Semester 2 PHYS 225	Semester 2 PHYS 323* (even spring) PHYS 325* (odd spring)	Semester 2 PHYS 323* (even spring) PHYS 325* (odd spring) PHYS or Allied elective

Physics BA (recommended courses starting with MATH 113)

Freshman (<28 credits)	Sophomore (28-59 credits)	Junior (60-91 credits)	Senior (92+ credits)
Semester 1 MATH 113 CISC 131	Semester 1 PHYS 212 MATH 200	Semester 1 PHYS 215	Semester 1 PHYS elective PHYS or Allied elective
Semester 2 PHYS 211 MATH 114 CISC 131 * *if NOT taken semester 1	Semester 2 PHYS 225 MATH 210	Semester 2 PHYS 323* (even spring) PHYS 325* (odd spring) PHYS elective	Semester 2 PHYS 323* (even spring) PHYS 325* (odd spring) PHYS or Allied elective

Physics BA (recommended courses starting with MATH 108)

Freshman (<28 credits)	Sophomore (28-59 credits)	Junior (60-91 credits)	Senior (92+ credits)
Semester 1 MATH 108 CISC 131	Semester 1 PHYS 211 MATH 114	Semester 1 PHYS 215 MATH 210	Semester 1 PHYS elective PHYS elective
Semester 2 MATH 109 CISC 131 * *if NOT taken semester 1	Semester 2 PHYS 212 MATH 200	Semester 2 PHYS 225 PHYS 323* (even spring) PHYS 325* (odd spring)	Semester 2 PHYS 323* (even spring) PHYS 325* (odd spring) PHYS or Allied elective

* 4 credits are required from: PHYS 323, PHYS 325 and ENGR 481. Students may take PHYS 323/325 in the Spring of their Sophomore year after consultation with their advisor.

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<https://www.stthomas.edu/media/officeofgeneralcounsel/policies/EOStatementNoticeofNondiscrimination-Approved20180706.pdf>

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