

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

4 additional Physics or Allied elective credits (4 credits)

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)
ENGR 240	Circuit Analysis	(4 credits)
or		
ENGR 350	Intro to Electronics	
CISC 130	Intro to Programming in Sciences	(4 credits)
or		
CISC 131	Intro to Programming	

Physics Elective Courses:

PHYS 104	Astronomy	(4 credits)
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 331	Chemical Thermodynamics	(4 credits)
CHEM 332	Quantum Chemistry	(4 credits)
ENGR 342	Electromagnetic Waves	(4 credits)
ENGR 361	Engineering Materials	(4 credits)
ENGR 368	Fluid Mechanics for CE	(4 credits)
ENGR 381	Thermodynamics	(4 credits)
ENGR 385	Fluid Mechanics	(4 credits)
ENGR 481	Engineering Design Clinic II	(4 credits)
MATH 400	Dynamical Systems and Chaos	(4 credits)

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

Major and
Physics/Allied Elective
Courses:
32 credits

Allied Courses:
24 credits

Core Curriculum and
Free Elective Courses:
73 credits

129 credits

Physics
BA



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 ENGR 240 or ENGR 350	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 ENGR 240 or ENGR 350	Semester 1 PHYS 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 ENGR 240 or ENGR 350 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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