

# Physics B.A./B.S. with Emphasis in Engineering

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## Core Curriculum Courses

See the Core Curriculum Requirements ( <a href="http://coursecatalog.tamuc.edu/undergrad/core-curriculum-requirements/">http://coursecatalog.tamuc.edu/undergrad/core-curriculum-requirements/</a> )		42
PHYS 101	Physics and Astronomy Seminar	1
PHYS 119	Introduction to Python Computer Programming for the Physical Sciences	1
PHYS 2425	University Physics I *	
PHYS 2426	University Physics II	4
PHYS 317	Mathematical Methods for Physics and Engineering	3
PHYS 319	Computational Physics with Python	3
PHYS 321	Modern Physics	3
PHYS 332	Electronics for Scientists and Engineers	4
PHYS 333	Wave Motion, Acoustics, and Optics	4
PHYS 335	Advanced Physics Laboratory	3
PHYS 401	Current Topics in Physics and Astronomy (( sh, must be repeated for total of 2 sh))	2
PHYS 411	Classical Mechanics	3
PHYS 412	Electricity and Magnetism	3
PHYS 414	Thermodynamics and Kinetic Theory	3
PHYS 420	Quantum Mechanics	3
PHYS or ASTR or MATH (Adv)		9
Required support courses		
MATH 2413	Calculus I *	
MATH 2414	Calculus II *	
MATH 2415	Calculus III	4
MATH 2320	Differential Equations	3
MATH 2318	Linear Algebra	3
CHEM 1311	General and Quantitative Chemistry I *	
CHEM 1111	General and Quantitative Chemistry Laboratory I	1
<b>Electives Required</b>		
Choose 18-23 semester hours from:		18-23
PHYS 421	Semiconductor Physics and Engineering	3
PHYS 430	Optics	3
CHEM 351	Physical Chemistry	4
CHEM 352	Physical Chemistry	4
ENGR 2303	Engineering Mechanics- Statics and Dynamics	3
ENGR 2304	Computing for Engineers	3
ENGR 2308	Engineering Economic Analysis	3
ENGR 213	Engineering Probability and Statistics	3
ENGR 110	Introduction to Engineering and Technology	3
ENGR 1304	Computer-Aided Design (CAD)	3
CONE 331	Mechanics of Materials	3
CONE 332	Structural Analysis and Design	3
EE 210	Digital Circuits	3
EE 220	Circuit Theory I	3
EE 309	Circuit Theory II	3
EE 320	Electronics I	3
EE 321	Electronics II	3
IE 314	Statistical Quality Control	3
IE 403	Human Factors Engineering	3

**Total Hours**

**123-128**

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This course should be taken to fulfill Core Curriculum Requirements.