BS in Engineering Physics

2025-2026 Catalog

Freshman Year		Sophomore Year		Junior Year		Senior Year	
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
PHY 1090 Frontiers of Physics (3)	COP 2271 Introduction to Computation and Programming (3)	PHY 2750C Design Techniques in Physics (3)	PHY 2841C Experimental Techniques in Physics (3)	PHY 3802C Modern Physics Design 1 (3)	PHY 3803C Modern Physics Design 2 (3)	PHY 4910C Physics Capstone Design 1 (3)	PHY 4911C Physics Capstone Design 2 (3)
CHM 2045 Chemistry I (3)	PHY 2048 Physics 1 (3)	PHY 2049 Physics 2 (3)	PHY 3101 Intro to Modern Physics (3)	PHZ 3151 Computational Physics (3)	PHY 4513 Thermal and Statistical Physics (3)	Physics Elective (3)	Physics Elective (3)
CHM 2045L Chemistry I Lab (1)	PHY 2048L Physics 1 Lab (1)	PHY 2049L Physics 2 Lab (1)	PHY 3221 Classical Mechanics (3)	PHY 3323 Electricity and Magnetism 1 (3)	EEL 3111 Circuits 1 (3)	EGN 3343 Engineering Thermodynamics (3)	Engineering Elective (3)
IB or C in MAC 1147 or higher, AP for MAC 2311	MAC 2311 Analytic Geometry and Calculus 1 (4)	MAC 2312 Analytic Geometry and Calculus 2 (4)	MAC 2313 Analytic Geometry and Calculus 3 (4)	MAS 3105 Linear Algebra (3)	PHY 3602 Quantum Mechanics (3)	Engineering Elective (3)	Engineering Elective (3)	Social Science or Arts and Humanities Gen Ed Course (3)
	ENC 1101 English Composition I (3,W)	ENC 2210 Technical Writing (3,W)	EGN 3311 Statics (3)	MAP 2302 Differential Equations (3)	EGN 3365 Structure and Properties of Materials (3)	Arts and Humanities Gen Ed Course (3)	Social Science or Arts and Humanities Gen Ed Course (3)	
		Social Science Gen Ed Course (3)	COP 3337 Object Oriented Programming (3)		IDS 4941 Professional Exp. Internship (0)			

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Legend:

- Grade of C or higher pre-req or minimum course grade
- General Education
- Professional Foundation
- Physics Core
- Engineering Core
- Foundational
- Computing and Design

Last Modified 3/18/2025

BS in Engineering Physics
Program Electives and General Education

Program Electives

Engineering Electives
Select 3 courses (9 credits) from the list below:

- EAS 4200 - Introduction to Aero Structures Credits: 3
- EAS 4505 - Orbital Mechanics Credits: 3
- EEL 3287 - Renewable Energy and Sustainability Credits: 3
- EEL 3702 - Digital Logic Design Credits: 3
- EEL 4283 - Renewable Energy Systems Credits: 3
- EEL 4660 - Autonomous Robotic Systems Credits: 3
- EGN 3321 - Dynamics Credits: 3
- EGN 3331 - Strength of Materials Credits: 3
- EGN 4334 - Mechanics of Composite Materials Credits: 3
- EIN 3390 - Manufacturing Processes Credits: 3
- EML 3015 - Fluid Mechanics Credits: 3
- EML 4140 - Heat Transfer Credits: 3
- EML 4541 - Fatigue and Fracture Mechanics Credits: 3
- EML 4833 - Human Robotics Credits: 3

Physics Electives
Select 2 courses (6 credits) from the list below:

- PHZ 3442 - Semiconductor Physics Credits: 3
- PHZ 4308 - Nuclear and Subatomic Physics Credits: 3
- PHZ 4444 - Solid State Physics Credits: 3
- AST 4217 - Stellar Astrophysics Credits: 3
- AST 3222 - Introduction to Astrophysics Credits: 3
- AST 4300 - Galaxies and the Universe Credits: 3
- PHY 3445 - Laser Physics Credits: 3
- PHY 3650 - Quantum Information and Computing Credits: 3
- PHY 4324 - Electricity and Magnetism 2 Credits: 3
- PHZ 3601 - Special Relativity Credits: 3
- PHZ 4153 - Computational Physics 2 Credits: 3

Arts, Humanities, and Social Sciences

Arts & Humanities

A total of 12 credit hours must be completed in the arts, humanities, and social sciences. Select 3 to 9 credits from the following courses:

At least one course (3 credits) from the following state required list:

- ARH 2000 - Art Appreciation Credits: 3
- HUM 2020 - Introduction to the Humanities Credits: 3
- LIT 2000 - Introduction to Literature Credits: 3
- PHI 2010 - Introduction to Philosophy Credits: 3
- MUL 2010 - Music Appreciation Credits: 3

Optional additional course elective:

- IDS 2144 - Legal, Ethical, and Management Issues in Technology Credits: 3

Social Sciences

A total of 12 credit hours must be completed in the arts, humanities, and social sciences. Select 3 to 9 credits from the following courses.

At least one course (3 credits) from the following state required list:

- AMH 2010 - American History to 1877 Credits: 3
- AMH 2020 - American History Since 1877 Credits: 3
- ECO 2013 - Principles of Macroeconomics Credits: 3
- POS 2041 - American Government Credits: 3
- PSY 2012 - General Psychology Credits: 3

Optional additional course elective:

- ECO 2023 - Principles of Microeconomics Credits: 3

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