

Engineering Physics Bachelor of Science (76 credit hours)

Students studying Engineering Physics can usually fall into two categories, those wishing to pursue a graduate degree in physics or engineering, or those with a passion for physics and research and want a strong background in hardware and design.

These students will often go on to graduate school but are also exceptionally well prepared for careers in industry and national laboratories.

21 credit hours from the Common Engineering Core:

- CPSC 2320: C++ Programming, 1 credit hour¹
- ENGR 2001: Introduction to Engineering, 1 credit hour
- ENGR 2002: Introduction to Mechanical Laboratory, 1 credit hour
- ENGR 2003: Introduction to Electrical and Computer Laboratory, 1 credit hour
- ENGR 2010: Statics, 2 credit hours
- ENGR 2030: Circuit Analysis, 3 credit hours
- ENGR 2090: Systems Engineering, 2 credit hours²
- ENGR 2110: Dynamics, 2 credit hours
- ENGR 2310: Computational Problem Solving, 3 credit hours
- ENGR 4950: Senior Design I, 2 credit hours³
- ENGR 4960: Senior Design II, 2 credit hours⁴

31 credit hours of Mathematics and Basic Sciences:

- CHEM 2110: General Chemistry I, 4 credit hours⁵
- MATH 2010: Calculus I, 4 credit hours⁶
- MATH 2020: Calculus II, 4 credit hours
- MATH 3010: Linear Algebra with Differential Equations, 4 credit hours
- MATH 3020: Calculus III, 4 credit hours
- MATH 3100: Differential Equations, 3 credit hours
- PHYS 2240: General Physics I, 4 credit hours
- PHYS 2250: General Physics, II, 4 credit hours

24 credit hours of major specific requirements:

- PHYS 3130 Modern Physics, 2 credit hours
- ENGR 2070 Thermodynamics, 3 credit hours
- ENGR 3240/PHYS 4210 Electromagnetic Fields, 3 credit hours
- PHYS 4220 Computational Mechanics, 3 credit hours
- PHYS 4130 Quantum Theory, 4 credit hours
- PHYS 4410 Statistical Mechanics, 3 credit hours
- A minimum of 6 hours of any CPSC, ENGR, MATH or PHYS courses at the 3000 level or above.

NOTE: All students must complete 120 total credit hours to graduate from Anderson University.

¹ May also be fulfilled with CPSC 2500.

² This course fulfills the Global/Intercultural Ways of Knowing requirement in the Liberal Arts Program.

³ This is a Writing Intensive course in the Liberal Arts Program.

⁴ This is both a Writing and Speaking Intensive course in the Liberal Arts Program.

⁵ This course fulfills the Scientific Ways of Knowing requirement in the Liberal Arts Program.

⁶ This course fulfills the Quantitative Ways of Knowing Requirement in the Liberal Arts Program.

Questions? Please contact the [Department of Physical Sciences & Engineering](#).



Proposed Course Sequence:

Freshman: MATH 2010, CHEM 2110, ENGR 2001, 2002, 2003; MATH 2020, PHYS 2240, ENGR 2310
 Sophomore: MATH 3010, PHYS 2250, ENGR 2010, 2110, CPSC 2320;
 MATH 3020, 3100, ENGR 2030, 2090
 Junior: ENGR 3240, 2070, PHYS 3130; PHYS 4130, EP Electives
 Senior: PHYS 4220, ENGR 4950, EP Electives; PHYS 4410, ENGR 4960, EP Electives

Common Engineering Core Suggested Course Sequence

SEMESTER 1		SEMESTER 2	
MATH 2010	4 Hours	MATH 2020	4 Hours
CHEM 2110	4 Hours	PHYS 2240	4 Hours
ENGR 2001, 2002, 2003	3 Hours	ENGR 2310	3 Hours
ENGL 1100/ENGL 1110	3-4 Hours	ENGL 1120	3 Hours
LART 1050	1 Hour	Personal Wellness	2 Hours

SEMESTER 3		SEMESTER 4	
MATH 3010	4 Hours	MATH 3020	4 Hours
PHYS 2250	4 Hours	MATH 3100	3 Hours
ENGR 2010/2110	2+2 Hours	ENGR 2030	3 Hours
CPSC 2320	1 Hour	ENGR 2090 (Global/Intercultural Ways of Knowing)	3 Hours
COMM 1000	3 Hours	Foreign Language	4 Hours

Engineering Physics Major Suggested Course Sequence

SEMESTER 5		SEMESTER 6	
ENGR 3240	3 Hours	PHYS 4130	4 Hours
ENGR 2070	3 Hours	EP Electives	
PHYS 3130	2 Hours	Christian Ways of Knowing	3 Hours
BIBL 2000	3 Hours	Aesthetic Ways of Knowing	3 Hours

SEMESTER 7		SEMESTER 8	
PHYS 4220	3 Hours	PHYS 4410	3 Hours
EP Electives		ENGR 4960	2 Hours
ENGR 4950	2 Hours	EP Electives	
Social/Behavioral Ways of Knowing	3 Hours	Civic Ways of Knowing	3 Hours
Critical Reasoning	2 Hours		

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