ENGINEERING PHYSICS MAJOR (B.S.)

https://physics.unh.edu/content/bs-engineering-physics

Description

The bachelor of science degree in engineering physics (BSEP) provides training for individuals who either seek employment in an engineering discipline that requires a deeper knowledge of physical principles or who intend to pursue a graduate degree in engineering. A BSEP degree differs from a traditional engineering degree in that the curriculum includes more of a focus on fundamental physics. At the same time, the UNH program is flexible in the sense that each student designs his or her program (with appropriate advising) within certain constraints, which include a core component and an electives component. The goal is to balance physics courses with appropriate selections from various engineering disciplines to prepare the student for his or her longer term goals, keeping a balance between depth and breadth that is appropriate for these goals.

Requirements

Discovery Program requirements		
Writing requirements		
Bachelor of Science requirements		
Core Requirements:		
CHEM 403	General Chemistry I	4
or CHEM 405	Chemical Principles for Engineers	
CS 410P	Introduction to Scientific Programming/Python	4
or IAM 550	Introduction to Engineering Computing	
MATH 425	Calculus I	4
MATH 426	Calculus II	4
Choose one:		8-12
MATH 527 & MATH 528	Differential Equations with Linear Algebra and Multidimensional Calculus	
or MATH 525 & MATH 526	Linearity I and Linearity II	
PHYS 400	Freshman Seminar	1
PHYS 407	General Physics I	4
PHYS 408	General Physics II	4
Capstone [1]		
Engineering Physics Requirements: [2]		
Choose six physics courses [3]		24
Choose six engineering courses [4]		18-24
Choose two elective courses [5]		

1. Students must complete a Capstone during the senior year. ABET accreditation requires that the capstone experience be a design experience. Students should consult with their advisor to determine coursework that may satisfy this requirement.
2. Engineering Physics Requirements: of the 14 courses below a minimum of 8 courses must be at the 600 and 700 level.
3. Six courses chosen from PHYS 409:799, minimum of one course must be at the 700 level.
4. Six courses chosen from CHE 400:799, CEE 400:799, ECE 400:799, ET 400:799, ME 400:799, OE 400:799.
5. Courses must be chosen from PHYS 400:799, ECE 400:799 or MATH 400:799.

If a project involves research, it must also lead to a design effort. A student must have a minimum grade of C in each 400- or 500-level course in items 4a through 4d and an overall grade-point average of 2.33 in these courses in order to continue in the program.

Engineering Physics students interested in earning an ABET-accredited degree are required to complete 48 credits hours of approved engineering topics in addition to 32 credit hours in science and mathematics. Requirements for a BS in Engineering Physics have been modified to include those requirements within three BSEngPhys tracks, with the new requirements taking effect in the 2018-2019 catalog. Student seeking the accredited degree must ensure that the 2018-2019 curriculum is followed.