



University Bulletin

Undergraduate Degree Programs

Physics

Penn State Erie, The Behrend College (PHYBD)

Not all options are available at every campus. Contact the campus you are interested in attending to determine which options are offered.

The major provides education in the fundamentals of physics and selected advanced topics to prepare graduates for graduate education or for careers in industry. Students have opportunities to participate in research with faculty. In addition to the traditional physics education offered in the General physics option, the option in applied physics, Computational Physics, provides preparation for careers in technological fields.

For the B.S. degree in Physics, a minimum of 122 credits is required. Each student must earn at least a grade of C in each 300- and 400-level course in the major field.

Scheduling Recommendation by Semester Standing given like (Sem: 1-2)

GENERAL EDUCATION: 45 credits

(18 of these 45 credits are included in the REQUIREMENTS FOR THE MAJOR)

(See description of General Education in this bulletin.)

FIRST-YEAR SEMINAR:

(Included in ELECTIVES)

UNITED STATES CULTURES AND INTERNATIONAL CULTURES:

(Included in GENERAL EDUCATION course selections)

WRITING ACROSS THE CURRICULUM:

(Included in REQUIREMENTS FOR THE MAJOR)

ELECTIVES: 1 credit

REQUIREMENTS FOR THE MAJOR: 94 credits

(This includes 18 credits of General Education courses: 9 credits of GN courses; 6 credits of GQ courses; 3 credits of GWS courses.)

COMMON REQUIREMENTS FOR THE MAJOR (ALL OPTIONS): 66 credits

PRESCRIBED COURSES (66 credits)

CHEM 110 GN(3), CHEM 111 GN(1), CHEM 112 GN(3), CHEM 113 GN(1), MATH 140 GQ(4), MATH 141 GQ(4) (Sem: 1-2)

PHYS 211 GN(4) [\[1\]\(#mnote01\)](#), PHYS 212 GN(4) [\[1\]\(#mnote01\)](#), PHYS 213 GN(2) [\[1\]\(#mnote01\)](#), PHYS 214 GN(2) [\[1\]\(#mnote01\)](#), PHYS 237(3) [\[1\]\(#mnote01\)](#) (Sem: 1-4)

CMPSC 121 GQ(3), ENGL 202C GWS(3) (Sem: 3-4)

MATH 220 GQ(2-3), MATH 230(4), MATH 251(4), PHYS 400(3), PHYS 419(3), PHYS 420(3), PHYS 421W(3), PHYS 458(4), PHYS 494(3) (Sem: 5-8)

REQUIREMENTS FOR THE OPTION: 28 credits

COMPUTATIONAL PHYSICS OPTION: (28 credits)

PRESCRIBED COURSES (10 credits)

CMPSC 122(3) (Sem: 1-8)

MATH 455(3), PHYS 402(4) (Sem: 5-8)

ADDITIONAL COURSES (15 credits)

Select 3 credits from CMPSC 459(3), CMPSC 465(3), or CMPSC 474(3) (Sem: 5-8)

Select 12 credits from E E 352(4), E E 450(3), E E 453 (3), MATH 456(3), M E 410(3), M E 428(3), PHYS 410(3), PHYS 414(3), PHYS 446(I), PHYS 494(1-3), and/or PHYS 495(1-3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (3 credits)

Select 3 credits from a division-approved list (Sem: 1-8)

GENERAL PHYSICS OPTION: (28 credits)

PRESCRIBED COURSES (3 credits)

PHYS 410(3) (Sem: 5-8)

ADDITIONAL COURSES (12 credits)

Select 12 credits from MATH 421(3), MATH 455(3), MATH 456(3), PHYS 402(4), PHYS 414(3), PHYS 446(I), PHYS 494(1-3), and/or PHYS 495(1-3) (Sem: 5-8)

SUPPORTING COURSES AND RELATED AREAS (13 credits)

Select one of the following two sequences:

a. Select 8 credits of a foreign language (Proficiency demo by examination or course work to the level of the second semester in a foreign language is required. If fewer than 8 credits are needed to reach the required proficiency, students choose selections from a division-approved list to make a total of 8 credits.) (Sem: 1-8)

Select 5 credits from a division-approved list (Sem: 1-8)

b. CMPSC 122(3) (Sem: 1-8)

Select 3 credits from CMPSC 459(3), CMPSC 465(3), or CMPSC 474(3) (Sem: 1-8)

Select 7 credits from a division-approved list (Sem: 1-8)

[1] A student enrolled in this major must receive a grade of C or better, as specified in Senate Policy 82-44.

Last Revised by the Department: Summer Session 2000

Blue Sheet Item #: 28-04-014C

Review Date: 01/30/01

UCA Revision #1: 8/9/06

UCA Revision #2: 7/30/07

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student's degree audit.

The University reserves the right to change the requirements and regulations listed here and to determine whether a student has satisfactorily met its requirements for admission or graduation, and to reject any applicant for any reason the University determines to be material to the applicant's qualifications to pursue higher education. Nothing in this material should be considered a guarantee that completion of a program and graduation from the University will result in employment.

The University Faculty Senate has responsibility for and authority over all academic information contained in the Undergraduate Bulletin.