

Penn State University Requirements for Teacher Certification¹ in Science Subjects
Biology, Chemistry, Earth & Space Science, Environmental Education, General Science, and Physics

Education Requirements

Education and supporting fields

An advisor-approved PSY or EDPSY course at the 400 or 500 level, HDFS 239, or SCIED 552 ²	_____ (3 cr)
An EDTHP 400 or 500-level course	_____ (3)
C I 495C (Middle field experience)	_____ (3)
[C I 495E (Student teaching)] or [C I 595 (Internship) plus SCIED 558 (Research)]	_____ (15)
CI 280 or 580 (Teaching ELL)	_____ (3)
SPLED 400 and an additional sequence ³	_____ (12-18)

Science education

SCIED 411W	_____ (3)
SCIED 412 or 512 ⁴	_____ (3)

Additional requirements

First Aid and CPR certification	_____
Official tests required by Pennsylvania ⁵	_____
80 hrs work with youth grades 6-12	_____

Notes

1. These are the certification requirements common to all certification options; students seeking an undergraduate or graduate degree in Education will need to complete additional requirements, appropriate to the degree.
2. PSU courses at the 500 level may be taken by seniors with GPAs of 3.5 or higher with the consent of the instructor, and by seniors with GPAs of 3.0 or higher through written petition.
3. **Sequence A:** ED PSY 14, SPLED 403B. **Sequence B:** SCIED 512, C I 595. Sequence B is the usual path for students who will complete certification at the graduate level.
4. Offered in alternate semesters (412 Fall, 512 Spring).
5. Undergraduate certification students must pass the PECT PAPA test. Graduate candidates are no longer required to take this entrance test. *All* candidates are required to pass a subject-matter PRAXIS test in their initial certification subject. After Pennsylvania issues an initial certificate in one science, students may apply for certification in other science subjects by passing additional PRAXIS subject-matter exams.

Subject-Matter Requirements

There are two options for completing the science subject-matter certification requirements: (1) A major in Secondary Education with the SCIED option, or (2) An undergraduate major in a qualifying scientific discipline.

Option 1. Undergraduate Major in Secondary Education (SECED)

Candidates completing Option 1 (Secondary Education major) must complete the program of science studies enumerated in the SECED checklist appropriate to their certification subject and year of Entrance to Major. Please note that these checklists enumerate a number of other non-certification related major requirements.

Although Pennsylvania offers teacher certificates in Environmental Education and General Science, at Penn State these are considered options for students pursuing certification in other subjects, such as Biology. Students are advised to focus their curricular planning on one of the four “core” science checklists: Biology, Chemistry, Earth & Space Science, or Physics. Use the Environmental Education and/or General Science *Advising Notes* as guidance for supplemental coursework; the acquisition of a certificate in those subjects is accomplished by a) completing an initial core science certificate program (including passing the PRAXIS exam, e.g., in Biology), and b) passing a second PRAXIS exam in Environmental Education or General Science.

Option 2. Undergraduate Major in a Qualifying Scientific Discipline

Candidates using Option 2 may need additional science coursework beyond their basic undergraduate major, in order to meet science subject-matter breadth requirements established by the Commonwealth and accrediting agencies; this plan of studies is developed in consultation with the student’s Science Education faculty advisor. We suggest “best options” for each certificate: these majors are least likely to require significant additional science coursework.

Biology: Qualifying science majors at Penn State University: College of Science (Biochemistry and Molecular Biology, **B M B**; Biology, **BIOL**; Biotechnology, **BIOTC**; Microbiology, **MICRB**). Best option: BIOL.

Chemistry College of Science (Biochemistry & Molecular Biology, **B M B**; Chemistry, **CHEM**); College of Engineering (Chemical Engineering, **CH E**). Best option: CHEM.

Earth & Space Science: College of Earth & Mineral Sciences (Earth Sciences, **EARTH**; Geosciences, **GEOSC**); College of Science (Astronomy & Astrophysics, **ASTRO**). Best options: EARTH or GEOSC.

Physics: College of Science (Astronomy & Astrophysics, **ASTRO**; Physics, **PHYS**); College of Engineering (Aerospace Engineering, **AERSP**; Civil Engineering, **C E**; Electrical Engineering, **E E**; Engineering Science, **E SC**; Mechanical Engineering, **M E**; Nuclear Engineering, **NUC E**). Best option: PHYS.

Students with majors in other scientific disciplines will also be considered for admission, but will need to demonstrate that their program of science studies is equivalent to that of one of the qualifying science majors or the science requirements enumerated in one of the Option 1 checklists. This is typically done through additional coursework after the bachelor’s degree.