

Education Major with Teaching Biology Concentration

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About

The Education and Counseling Department undergraduate offerings include a Major in Secondary Education, two different Minor in Education programs, a Minor in Counseling, and a combined [BA/MA in Education](#). The Secondary Education degree has been approved by the Pennsylvania Department of Education (PDE) to recommend candidates for Level I Certification in order to teach in grades 7 through 12 in Pennsylvania's public schools. Faculty in the department are highly engaged in both theoretical and practical research related to education and counseling.

Program: [Education and Counseling](#)

Type: Bachelor of Arts

PRIMARY MAJOR (124 credits)

To be accepted into the major, students must have a 3.0 GPA, 6 credits in English and 6 credits in math completed prior to the start of their junior year. Candidates for the major should apply as soon as possible and no later than sophomore year

Required Major Credits (43 credits + Concentration)

In addition to demonstrating competence within their chosen academic discipline, as well as fulfilling the College of Arts and Sciences' core curriculum requirements, students participate in a wide variety of classroom field experiences. Such experiences are carefully selected and supervised and always appropriate to both the academic and professional competence of the students.

Program Notes:

- PDE requires all Education Majors to take two Math and two English courses before the end of their sophomore year. This is part of the state certification requirement. One English is taken as part of the Core.
- Teacher certification is embedded within the B.A. program. [Visit this page to learn more.](#)

| Course | Title | Credits |
|----------|---------------------------------------|---------|
| | EDU 2201 or EDU 2202 | 3 |
| EDU 2300 | Research Seminar in Education | 3 |
| EDU 3000 | Prof. Development in Education | 1 |
| EDU 3251 | Psych of Teaching & Learning | 3 |
| EDU 3263 | Diversity and Inclusion | 3 |
| EDU 3264 | Intro to Disability Studies | 3 |
| EDU 4245 | Literacy & Eng Lang Learning | 3 |
| EDU 4284 | Meth Science Sec School | 3 |
| EDU 4290 | Philosophy of Education | 3 |
| EDU 4291 | Student Teaching | 9 |
| EDU 4292 | Senior Seminar | 3 |
| | MAT 1314 or MAT 1505 | 3-4 |
| | Advanced English Elective for EDU BIO | 3 |

Teaching Biology Concentration (48 credits)

Concentration Notes:

- Students must be a declared education major to have this concentration.
- Students in the education major with a biology emphasis fulfill their core math, core natural science, and core social science with courses taken in the major.

| Course | Title | Credits |
|----------|---|---------|
| BIO 2105 | General Biology I | 4 |
| BIO 2106 | General Biology II | 4 |
| BIO 3055 | Human Physiology | 4 |
| BIO 3351 | Genetics | 4 |
| BIO 3255 | Evolutionary Ecology | 4 |
| BIO 3595 | General Microbiology | 4 |
| CHM 1151 | General Chemistry I | 4 |
| CHM 1103 | General Chemistry Lab I | 1 |
| MSE 2206 | BIO:Biotechnology in Our Soc. | 4 |
| | MAT 1312 or MAT 1500 | 4 |
| | Electives for Education BIO Concentration | 11-12 |

Core Curriculum Requirement (27 credits)

Education Majors with the Teaching Biology Concentration meet the following core requirements in the major and therefore are omitted from the summary below:

- Core Math (3 cr)
- Natural Science (8 cr)
- Social Science (6 cr)

| Course | Title | Credits |
|----------|---|---------|
| ACS 1000 | Ancients | 3 |
| ACS 1001 | Moderns | 3 |
| THL 1000 | Faith, Reason, and Culture | 3 |
| PHI 1000 | Knowledge, Reality, Self | 3 |
| ETH 2050 | The Good Life:Eth & Cont Prob | 3 |
| | Literature and Writing Seminar (1 course) | 3 |
| | History (1 course) | 3 |
| | Fine Arts (1 course) | 3 |
| | Upper-Level Theology (1 course) | 3 |
| | Language Requirement (Proficiency) | |
| | Diversity Requirement (2 courses) | |

Free Elective Requirement (6 credits)

Students with an Education primary major with a concentration in Teaching Biology have six (6) required free elective credits.

Degree Credit Summary

- **Major Credits:** 43-44 credits
- **Concentration:** 48-49 credits
- **Core Credits:** 27 credits
- **Free Electives Credits:** 6 credits
- **Total Required Credits:** 124-126 Credits

Note: The above credit totals are based on the minimum number of required credits in each degree area. The minimum number of required credits in each area listed above must be met. Credits taken beyond the required minimum for one area may not be applied to another area.

Category Descriptions

EDU 2201 or EDU 2202

Credits: 3

| Course | Title | Credits |
|----------|--------------------------|---------|
| EDU 2201 | Social Foundation Educ I | 3 |
| EDU 2202 | Social Foundation Edu II | 3 |

MAT 1314 or MAT 1505

Credits: 3-4

- MAT 1312 and MAT 1314 must be taken as a sequence.
- MAT 1500 and MAT 1505 must be taken as a sequence.

| Course | Title | Credits |
|----------|--------------------------------|---------|
| MAT 1314 | Modeling for the Life Sciences | 3 |
| MAT 1505 | Calculus II | 4 |

Advanced English Elective for EDU BIO

Credits: 3

- Take one three credit (3 cr) Advanced English elective, ENG 1000:5000, except ENG 1975.

MAT 1312 or MAT 1500

Credits: 4

Biochemistry Majors:

MAT 1312 may only count toward the requirements of the biochemistry major with permission of the program director.

CBN Majors:

- MAT 1312 and MAT 1314 must be taken as a sequence.
- MAT 1500 and MAT 1505 must be taken as a sequence.

| Course | Title | Credits |
|----------|-------------|---------|
| MAT 1312 | Biocalculus | 4 |
| MAT 1500 | Calculus I | 4 |

Electives for Education BIO Concentration

Credits: 11-12

Choose three from the options below.

| Course | Title | Credits |
|---------------|--------------------------------|----------------|
| BIO 3485 | Marine Biology | 4 |
| | CHM 2211 & 2201 | 4 |
| GEV 3580 | Natural Res and Conservation | 3 |
| | PHY 1100 & 1101 | 4 |
| MSE 2200 | BIO:Behavioral Bio of Animals | 4 |
| MSE 2201 | BIO:How Microbes Rule World | 4 |
| MSE 2202 | BIO:Biology and Politics | 4 |
| MSE 2203 | BIO:Hereditiy & Human Affairs | 4 |
| MSE 2204 | How The Body Works | 4 |
| MSE 2205 | BIO:Biodiversity& Conservation | 4 |
| MSE 2206 | BIO:Biotechnology in Our Soc. | 4 |
| MSE 2207 | BIO:Organisms in Changing Envr | 4 |
| MSE 2208 | BIO:Cancer Chronicles | 4 |
| MSE 2209 | BIO:Challenges in Inf Diseases | 4 |