

Education

B.S.Ed. in Middle Level Grades 4-8 Education: Science

Program Description

The Science concentration of the Bachelor of Science in Education in Middle Level Education degree prepares students to teach science to children in grades 4 through 8. Upon successful completion of this program, students will earn a bachelor's degree and be eligible for Pennsylvania teaching certification.

Delivery Mode

Traditional (on campus)

Accreditation

This undergraduate degree program is approved by the Pennsylvania Department of Education. Cal U's education programs have also been accredited by the National Council for Accreditation of Teacher Education (NCATE) since 1954, and we are continuing with the successor organization, the Council for the Accreditation of Educator Preparation (CAEP).

Curriculum

The following eight-semester schedule of courses provides a recommended framework for completing this program of study in four years.

| Course | Credits |
|---|-----------|
| Freshman Year | |
| First Semester | 16 |
| ENG 101 English Composition I | 3 |
| HIS 101 U.S. History to 1877 OR HIS 102 U.S. History since 1877 | 3 |
| MAT 181 College Algebra | 3 |
| PSY 206 Adolescent Psychology | 3 |
| UNI 100 First-Year Seminar | 1 |
| Fines Arts Elective | 3 |
| | |
| Second Semester | 15 |
| CHD 250 Teaching Health and Physical Education | 3 |
| ESP 210 Special Education Foundation and Collaboration | 3 |
| MAT 120 Elementary Topics in Math I | 3 |
| MAT 130 Elementary Topics in Math II | 3 |
| American/British Literature Course | 3 |
| | |
| Sophomore Year | |
| Third Semester | 16 |

Education

| Course | Credits |
|---|-----------------|
| ELM 200 Intro to Middle Level Education | 3 |
| CHD 350 Family and Community Collaborations | 3 |
| GEO/POS/ECO 102 Social Sciences Courses | 3 |
| MAT 215 Statistics | 3 |
| Physical Science Course from Approved List | 4 |
| | |
| Fourth Semester | 17 |
| BIO 125 General Botany OR BIO 120 General Zoology | 4 |
| ELM 220 Instruction and Assessment in 4-8 Class | 3 |
| ESP 311 Assessment and Positive Behavior Interventions* | 3 |
| PSY 208 Educational Psychology | 3 |
| Earth Science Course from Approved List | 4 |
| | |
| Junior Year | |
| Fifth Semester | 13 to 16 |
| ELM 302 Language Arts Methods Assessment* | 3 |
| ELM 321 Science Methods Assessment* | 3 |
| ELM 331 Social Studies Methods Assessment* | 3 |
| Free Elective | 1 to 3 |
| Science Concentration Course from Approved List | 3 or 4 |
| | |
| Sixth Semester | 15 or 16 |
| CHD 413 Content Area Literacy Field Experience* | 3 |
| ELM 301 Reading Methods Assessment* | 3 |
| ELM 311 Math Methods Assessment* | 3 |
| EDU 333 Technology for Teaching and Learning | 3 |
| Science Concentration Course from Approved List | 3 or 4 |
| | |
| Senior Year | |

Education

| Course | Credits |
|---|----------------|
| Seventh Semester | 15 |
| CHD 450 Assessment and Data Literacy* | 3 |
| EDU 350 Supporting English Language Learners | 3 |
| ELM 360 Environ., Eco., and Nature Study Education | 3 |
| ELM 415 Middle Level Field Experience* | 3 |
| ESP 412 Evidence Based Practices* | 3 |
| | |
| Eighth Semester | 6 or 12 |
| ELM 461 Student Teaching and School Law* | 6 or 12 |
| Total | 121 |

Program Notes

- **Course titles in bold** are scheduled together and must be taken at the same time.
- ALL ELM, CHD and ESP courses require current clearances and minimum 2.5 GPA to register for course, except ELM 200 and 220, which require a 2.0 GPA to register.
- All courses required for certification with a grade of C- or lower must be repeated.
- Candidates must follow policies for Admission to Teacher Education as stated in the Teacher Education Handbook.
- Courses marked with an asterisk are restricted to candidates admitted to Teacher Education.
- Pre-requisite for ELM 220 and all 300-level ELM and CHD courses is ELM 200.
- State licensure for exams must be passed before student teaching.
- Current clearances are required prior to enrolling in program courses.

Approved British or American Literature Courses

- **ENG 107** Introduction to Fiction
- **ENG 125** The American West
- **ENG 127** Woman as Hero
- **ENG 148** Horror in Literature
- **ENG 150** Baseball in Literature
- **ENG 155** Black Literature
- **ENG 160** Introduction to British and American Literature
- **ENG 203** Great Books
- **ENG 301** English Literature I (pre-requisite ENG 101, 102)
- **ENG 302** English Literature II (pre-requisite ENG 101, 102)
- **ENG 337** Survey of American Literature I (pre-requisite ENG 101, 102)
- **ENG 338** Survey of American Literature II (pre-requisite ENG 101, 102)
- **HON 250** Honors Comp II (pre-requisite HON 150)

Concentration Courses

Please consult the science education adviser before selecting from the following concentration courses:

- **CHE 101** General Chemistry
- **CHE 103** Chemistry for Every Day World
- **EAS 104** Intro to Meteorology
- **EAS 105** Extreme Weather
- **EAS 142** Climatology

Education

- **EAS 150** Intro to Geology
- **EAS 163** Introduction to Oceans
- **EAS 210** Soils
- **EDU 375** Intro to Integrated STEM Education
- **ENS 101** Intro to Environmental Science
- **PHS 137** Intro to Environmental Chemistry
- **PHS 145** Astronomy
- **PHY 121** General Physics I
- **PHY 122** General Physics II

Additional Requirements

Students accepted into a teacher certification program must be admitted to Teacher Education before they may register for upper-level, restricted courses. Please refer to the Teacher Education Program Student Handbook for details on Admission to Teacher Education requirements.

Accelerated Bachelor's-to-Master's Program

An accelerated bachelor's-to-master's (with credits toward a master's degree in Integrative STEM Education K-12) program is also available to undergraduate students who qualify. Curriculum requirements are listed under the "Accelerated Programs" section of this catalog.

Program Webpage

<https://www.calu.edu/academics/undergraduate/bachelors/middle-level-education/science.aspx>