Science Education: Earth Science Concentration (9-12)

**Intro to Education (C or better required)**
- (2) ED 100 (Fall Freshmen) OR
- (2) ED 150/151-SAY Village (Fall & Spring Freshmen)

**Academic Writing/Communication**
- (4) ENG 101 Academic Writing & Research
- (3) COM 110 Public Speaking

**Mathematics**
- (3) MA 131 or MA 141 Calculus I
- (3) MA 231 or MA 241 Calculus II

**Sciences (C or better required)**
- (4) BIO 181 Intro Biology: Ecology, Evolution, and Biodiversity
- (4) BIO 183 Intro Biology: Cellular and Molecular
- (4) CH 101/102 Chemistry
- (4) CH 201/202 Quantitative Chemistry
- (4) MEA 101/MEA 110 Geology
- (3) MEA 130 Weather and Climate
- (3) MEA 202 Geology II
- (3) MEA 200 Intro Oceanography
- (4) MEA 410 Intro Mineralogy and Petrology
- (6) MEA 451 Structural Geology
- (4) PY 211 College Physics I
- (4) PY 212 College Physics II
- (3) PY 123 or 124 Astronomy
- (3) ES 200 Climate Change and Sustainability

*A grade of C (2.0) or better is required for science core content courses, up to two courses with a grade below a C is permitted.*

**History/Philosophy of Science and Social Science Elective**
- (3) HI 321, HI 322, HI 341, PHI 340, or STS 301
- (3) Social Sciences Elective (see degree audit)

**GEP Courses**
- (3) Choose a course from the GEP Humanities list
- (3) Choose a course from the GEP Humanities list
- (1) Any 100 level Health & Exercise Studies
- (1) Any HE Course
- (3) Additional Breadth – Choose one Humanities, Social Sciences, or Visual Performing Arts course from the GEP list

USD and GK may “double-count” for both co-req and another GEP Requirement
- US Diversity Co-Requisite
- Global Knowledge Co-Requisite
- Foreign Language Proficiency

**C or better required in all courses below unless otherwise stated**

<table>
<thead>
<tr>
<th>SOPHOMORE YEAR</th>
<th>JUNIOR YEAR</th>
<th>SENIOR YEAR</th>
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<tbody>
<tr>
<td><strong>Fall Semester</strong></td>
<td><strong>Spring Semester</strong></td>
<td><strong>Fall Semester</strong></td>
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<tr>
<td>(3) EMS 373 Instr. Materials in Science</td>
<td>(2) EMS 205 Intro to Teaching Science</td>
<td>(3) EMS 475 Methods of Teaching Science (Fall Only)</td>
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<td>(3) ELP 344 School and Society</td>
<td>(2) ED 204 Intro to 21st Century Teaching</td>
<td><strong>B- or better required</strong></td>
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<td><strong>JUNIOR YEAR</strong></td>
<td><strong>Spring Semester</strong></td>
<td><strong>Prior admission to Professional Semester required</strong></td>
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<td><strong>Spring Semester</strong></td>
<td><strong>Fall Semester</strong></td>
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<tr>
<td>(3) EMS 475 Methods in Teaching Science</td>
<td>(3) EMS 375 Methods in Teaching Science</td>
<td>(3) EMS 475 Methods of Teaching Science (Fall Only)</td>
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<tr>
<td><strong>Prerequisite:</strong> EMS 205, ED 204</td>
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<td><strong>Prerequisite:</strong> EMS 375</td>
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<tr>
<td>(3) ECI 416 Teaching Exceptional Students</td>
<td>(2) ED 311 Classroom Assessment</td>
<td>(2) EMS 495 Senior Seminar in Math/Science Edu (Spring Only)</td>
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<td><strong>Prerequisite:</strong> ATC</td>
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<td><strong>Prerequisite:</strong> EMS 475; and Corequisite: EMS 495</td>
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<td>(1) ED 312 Classroom Assessment Lab</td>
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<td><strong>GPA at least 2.75</strong></td>
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<td><strong>SENIOR YEAR</strong></td>
<td><strong>Spring Semester</strong></td>
<td><strong>ATC REQUIREMENTS (Admission to Teacher Candidacy):</strong></td>
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<tr>
<td><strong>Fall Semester</strong></td>
<td><strong>Prior admission to Professional Semester required</strong></td>
<td><strong>ENG 101</strong></td>
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<td>(3) EMS 475 Methods of Teaching Science (Fall Only)</td>
<td>(10) EMS 476 Student Teaching in Science (Spring Only)</td>
<td>(2) Math courses</td>
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<td><strong>B- or better required</strong></td>
<td><strong>Prerequisite:</strong> EMS 475; and Corequisite: EMS 495</td>
<td><strong>EMS 205/ED 204</strong></td>
</tr>
<tr>
<td><strong>Prerequisite:</strong> EMS 375</td>
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<td><strong>Praxis I</strong></td>
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<td>Must have met ATC in order to register for ED 311/312. View your progress in SAGE → “Gateways” tab</td>
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**Completion:** _________ out of 4.5

**PROFESSIONAL GROWTH UNITS (PGU’s):** must earn 4.5 PGU’s by graduation. Register for sessions and track PGU’s in SAGE → “Professional Development” tab PGU events and details can be found at: [https://ced.ncsu.edu/academics/professional-education/professional-development/](https://ced.ncsu.edu/academics/professional-education/professional-development/)

**ATC REQUIREMENTS (Admission to Teacher Candidacy):**
- ENG 101
- 2 Math courses
- EMS 205/ED 204
- GPA at least 2.75
- Praxis I

Must have met ATC in order to register for ED 311/312. View your progress in SAGE → “Gateways” tab.