***Duluth Campus***

# Teaching Earth and Space Science B.A.Sc.

*D Earth & Environmental Sci, Education*

**College of Education and Human Service Professions**

- Program Type: Baccalaureate
- Requirements for this program are current for Spring 2016
- Required credits to graduate with this degree: 134 to 166
- Required credits within the major: 116 to 148
- This program is 9 terms (4½ years) long.
- This program requires summer terms.
- Degree: Bachelor of Applied Science

The B.A.Sc. in Teaching Earth and Space Sciences is offered by the Department of Education in conjunction with the Department of Geological Sciences. This major is for students who plan to teach all science areas in grades 5 through 8 and teach earth and space sciences in grades 9 through 12.

Students have the option of also completing the environmental education emphasis with this major. This emphasis enhances the student's major by integrating environmental education into formal (pre-K-12), as well as nonformal education settings such as parks and nature centers. A student in this emphasis must meet the same GPA requirements as for the major. The emphasis is noted on the student's diploma.

## Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

## Admission Requirements

Students must complete 45 credits before admission to the program.

Freshman and transfer students students are usually admitted to pre-major status before admission to this major

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

Students entering the secondary and K-12 licensure programs are bound by the policies in effect at the time of application; admission is based on criteria established by the Dept of Education, consistent with MN policies as established by the National Council for Accreditation in Teacher Education. Students must 1)complete EDUC 1101; 2)GPA of at least 2.50 cumulative including transfer work & in major courses completed at time of application; 3)take the MTLE Basic Skills Test for licensure; 4)passing scores on a nationally recognized standardized test (MTLE Basic Skills Test, ACT, SAT); 5)minimum 30 documented hours working with students in grades 5-12; 6)receive a C- or better in all required courses for the major. Students must submit a letter of application, resume, letters of recommendation and their APAS report. There are alternatives to the admission procedures to encourage the participation of individuals from underrepresented groups and students as determined by the dept.

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

**Required prerequisites**

**Introductory Course (1 cr)**

This course will be waived for transfer students or students who change colleges from a college where it is not required.

Register course for one credit.

UST 1000 - Learning in Community (1.0 - 2.0 cr)

## General Requirements

The Board of Regents, on recommendation of the faculty, grants degrees from the University of Minnesota. Requirements for an undergraduate degree from University of Minnesota Duluth include the following:

1. Students must meet all course and credit requirements of the departments and colleges or schools in which they are enrolled including an advanced writing course. Students seeking two degrees must fulfill the requirements of both degrees. However, two

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degrees cannot be awarded for the same major.

2. Students must complete all requirements of the Liberal Education Program.
3. Students must complete a minimum of 120 semester credits.
4. At least 30 of the last 60 degree credits earned immediately before graduation must be awarded by UMD.
5. Students must complete at least half of their courses at the 3xxx-level and higher at UMD. Study-abroad credits earned through courses taught by UM faculty and at institutions with which UMD has international exchange programs may be used to fulfill this requirement.
6. If a minor is required, students must take at least three upper division credits in their minor field from UMD.
7. The minimum cumulative UM GPA required for graduation will be 2.00 and will include only University of Minnesota coursework. A minimum UM GPA of 2.00 is required in each UMD undergraduate major and minor. No academic unit may impose higher grade point standards to graduate.
8. Diploma, transcripts, and certification will be withheld until all financial obligations to the University have been met.

## Program Requirements

1. Compliance with general regulations governing granting of degrees. Students are required to review their degree status in the CEHSP Advising & Academic Services Office early in their senior year.

2. Degree candidates must complete at least 20 of the last 30 degree credits immediately before graduation at UMD.

3. Students must make satisfactory academic progress and demonstrate acceptable professional performance in field experiences.

4. Program completers must pass all tests required by the Minnesota Board of Teaching to be recommended for licensure.

5. Students are expected to: a) make satisfactory progress each semester, including grades of C- or better in all courses required in the major; b) demonstrate acceptable professional performance in applied learning settings (e.g., laboratory, field experiences, clinical experiences); and c) obtain an approved background check before being placed in clinical, field, intern, or student teaching experiences. Students who do not meet program expectations can be dismissed from the major. Details on these requirements are available from the department office.

**Lower Division Requirements (58 cr)**

AST 1040 - Introductory Astronomy [LE CAT, NAT SCI] (3.0 cr)
BIOL 1011 - General Biology I [LE CAT, NAT SCI] (5.0 cr)
BIOL 1012 - General Biology II [SUSTAIN] (5.0 cr)
CHEM 1113 - Introduction to General, Organic, and Biological Chemistry I [LE CAT, NAT SCI] (5.0 cr)
CHEM 1114 - Introduction to General, Organic, and Biological Chemistry II (5.0 cr)
EDUC 1101 - Education in Modern Society [LE CAT7, HUMANITIES] (3.0 cr)
EES 1110 - Geology and Earth Systems [LE CAT, NAT SCI, SUSTAIN] (4.0 cr)
EES 1610 - Oceanography [LE CAT, NAT SCI, SUSTAIN] (3.0 cr)
EES 2110 - Reconstructing Earth's Climate History (4.0 cr)
EES 2311 - Mineralogy (4.0 cr)
GEOL 2350 *{Inactive}*[LE CAT, NAT SCI] (3.0 cr)
MATH 1250 - Precalculus Analysis [LE CAT2, LOGIC & QR] (4.0 cr)
PHYS 1001 - Introduction to Physics I [LE CAT, NAT SCI] (5.0 cr)
PHYS 1002 - Introduction to Physics II (5.0 cr)

**Upper Division (18 cr)**

Students must register for 4 credits in EDUC 3412.
EDUC 3412 - The Computer in Education (3.0 cr)
EDUC 4234 - Science, Technology, and Society [SUSTAIN] (3.0 cr)
GEOG 3401 - Weather and Climate (3.0 cr)
HLTH 3202 - Drug Education (2.0 cr)
EES 2120 - The Earth's Dynamic Interior (3.0 cr)
*or* EES 3210 *{Inactive}*(4.0 cr)
WRIT 3140 - Advanced Writing: Human Services (3.0 cr)
*or* WRIT 3150 - Advanced Writing: Science (3.0 cr)

**Block Requirements (39 cr)**

Application for admission to the blocks can only be completed spring semester for fall semester admission. Application for admission to the blocks must be submitted by the 6th Friday of the semester. Applications are available from the Department of Education website.

**Block I (12 cr)**

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All courses must be taken concurrently.
EDSE 4204 - Designing Learning Environments and Lessons (3.0 cr)
EDSE 4100 - Teaching in a Diverse Society (3.0 cr)
EDSE 4501 - Adolescent/Adult Development and Learning Theory (3.0 cr)
SPED 3415 - Special Education in the Secondary School (3.0 cr)

**Block 2 (14 cr)**

All courses must be taken concurrently. Application for student teaching must be made by the 4th Friday of the semester before student teaching. Applications are available from Department of Education website. EDSE 4255 and GEOL 4110 offered spring only. Consult advisor for additional upper division science courses.
EDSE 3206 - Apprenticeship: Secondary School (2.0 cr)
EDSE 4214 - Teaching Content-Area Reading (3.0 cr)
EDSE 4255 - Teaching Science: Grades 5-12 (3.0 cr)
EDSE 4525 - Assessment for Secondary Education (3.0 cr)
EDUC 4381 - Teaching Indigenous Students (3.0 cr)
EDUC 4110 - Advanced Earth Science for Teachers (2.0 cr)

**Block 3 (13 cr)**

All courses must be taken concurrently. Registration for student teaching in the senior year requires grades of C- or better in all courses in teaching major(s) and minor. graded completion of all education block courses; completion of at least 85% of teaching major courses. Students must have personal liability insurance while they are working in field placement settings. Students must register for 12 credits in EDSE 4600.
EDSE 4600 - Student Teaching (3.0 - 24.0 cr)
EDUC 4500 - Professional Issues and Ethics (1.0 cr)

**Diversity Immersion Experience Requirement**

Candidates must spend a minimum of 40 hours at a formal or nonformal educational setting that has a high percentage (greater than 50 percent) of children, young adults, or families from diverse communities. The format of this experience allows candidates to observe, interact, and reflect in an educational setting guided by focus questions and recommended readings.
Students must meet this requirement after they take EDUC 1101 and before they complete their education program. Registration for credit is not required for this experience; however, candidates who wish to earn credit may register for EDUC 4991.

## Program Sub-plans

A sub-plan is not required for this program.

### Environmental Education

This emphasis enhances the student's major by integrating environmental education into formal (pre-K-12), as well as nonformal education settings such as parks and nature centers.

A student in this emphasis must meet the same GPA requirements as for the major. The emphasis is noted on the student's diploma.

**Environmental Education Courses (25 cr)**

ENED 3309 - Outdoor Leadership (1.0 cr)
ENED 3310 - Outdoor Leadership Field Experience (2.0 cr)
ENED 3341 - Field Interpretive Techniques Fall (3.0 cr)
ENED 3342 - Field Interpretive Techniques - Winter & Spring (3.0 cr)
ENED 4163 - Outdoor Education Methods (3.0 cr)
HLTH 1650 *{Inactive}*(1.0 cr)
HLTH 1700 - First Responder (3.0 cr)
PETE 3507 - Teaching Outdoor Skills - Winter & Spring (2.0 cr)
ENED 1203 - Outdoor Skills I (2.0 cr)
ENED 1204 - Outdoor Skills II (2.0 cr)
ENED 4997 - Recreation Practicum (3.0 cr)

**Electives (6 cr)**

Pre-approved natural science courses may be substituted.
Take 6 or more credit(s) from the following:
•ES 2803 - Issues in Global Ecology [LE CAT] (3.0 cr)
•BIOL 3603 - Plant Taxonomy (3.0 cr)
•BIOL 4731 - Entomology (3.0 cr)
•BIOL 4761 - Ichthyology (3.0 cr)
•BIOL 4763 - Ornithology (3.0 cr)
•BIOL 5833 - Stream Ecology (3.0 cr)
•BIOL 5861 - Lake Ecology (3.0 cr)
•ENED 5325 - Sustainability Issues Investigation (2.0 cr)
•EES 5210 - Glacial and Quaternary Geology (4.0 cr)

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