The M.Ed. in Earth Sciences program is designed for secondary science teachers who seek to enrich their knowledge and practice through rigorous courses and individual projects supervised by Penn State faculty members. Combining graduate courses from academic departments in Penn State's College of Earth and Mineral Sciences, College of Education, and Eberly College of Science, the curriculum will prepare teachers to help students in grades 7 through 12 master educational objectives related to Earth and space science, as specified in National Science Education Standards (National Academy of Sciences, 1996). To accommodate working teachers who are only able to study part-time and at a distance, courses will be offered online through Penn State's World Campus. Fall, Spring, and Summer semester offerings will be available. Students will be granted licenses to use the courseware modules developed for the M.Ed. in Earth Sciences program in their secondary classroom.

Admission Requirements
Applicants apply for admission to the program via the Graduate School application for admission (http://gradschool.psu.edu/prospective-students/how-to-apply). Requirements listed here are in addition to Graduate Council policies listed under GCAC-300 Admissions Policies (http://gradschool.psu.edu/graduate-education-policies).

The language of instruction at Penn State is English. English proficiency test scores (TOEFL/IELTS) may be required for international applicants. See GCAC-305 Admission Requirements for International Students (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/gcac-305-admission-requirements-international-students) for more information.

Students may initially enroll in M.Ed. in Earth Sciences classes as non-degree graduate students. Up to 15 credits earned in non-degree status may be counted toward the M.Ed. in Earth Sciences degree, subject to restrictions outlined in GCAC-309 Transfer Credit (http://gradschool.psu.edu/graduate-education-policies/gcac/gcac-300/transfer-credit).

Degree Requirements
Master of Education (M.Ed.)
Requirements listed here are in addition to Graduate Council policies listed under GCAC-700 Professional Degree Policies (http://gradschool.psu.edu/graduate-education-policies).

The M.Ed. in Earth Sciences degree is conferred upon students who earn a minimum of 30 credits at the 400, 500, or 800 level while maintaining an average grade of 3.0 or better in all course work, including at least 18 credits at the 500 or 800 level (with at least 6 credits at the 500 level), and who complete a quality culminating individual project in consultation with a graduate adviser. Students will have the opportunity to participate in face-to-face field experiences or workshops at University Park or other locations during Summer sessions.

Student Aid
World Campus students in graduate degree programs may be eligible for financial aid. Refer to the Tuition and Financial Aid section (http://www.worldcampus.psu.edu/tuition-and-financial-aid) of the World Campus website for more information.

Courses
Graduate courses carry numbers from 500 to 699 and 800 to 899. Advanced undergraduate courses numbered between 400 and 499 may be used to meet some graduate degree requirements when taken by graduate students. Courses below the 400 level may not. A graduate student may register for or audit these courses in order to make up deficiencies or to fill in gaps in previous education but not to meet requirements for an advanced degree.

Earth Sciences (EARTH) Course List (https://bulletins.psu.edu/university-course-descriptions/graduate/earth)

Learning outcomes
1. Summarize current thinking on several specific areas of current research in the Earth sciences, collect and analyze data relevant to these topics, and formulate a plan to teach appropriate content from these topics to secondary school audiences.
2. Become conversant with the historical background and personalities involved in the scientific revolution of plate tectonic theory.
3. Know how to construct a dataset appropriate for comparing with a given empirical observation.
4. Know of how human lives are impacted by natural processes, and conversely how human activities impact Earth’s surface and the Critical Zone.
5. Conceptualize principles of ocean science and use them to think critically about ocean-related issues.
6. Explain the uncertainty inherent to predicting climate change.

Contact
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