

EARTH AND MINERAL SCIENCES

About the College

Lee Kump, John Leone Dean in the College of Earth and Mineral Sciences, College of Earth and Mineral Sciences

The College of Earth and Mineral Sciences has a rich history dating back more than 125 years, from the original focus on mining engineering, to today's interdisciplinary focus on earth, energy, materials science, and engineering. With our top-ranked programs, five academic departments, and more than 40 undergraduate majors, minors, and certificates, we provide a comprehensive, high-quality education. We are a close-knit community where students experience the best of both worlds — small class sizes and all the resources of a top research university. Our college is creating tomorrow's leaders and plays an important role in preparing a diverse and talented workforce, as well as providing new knowledge that will drive the economic vitality of the state, the nation, and beyond. Students from around the globe come here to be part of the discoveries that will help shape our planet's future. Together, we are creating a sustainable and inclusive future for society.

MORE INFORMATION ABOUT THE COLLEGE (<https://www.ems.psu.edu/>)

Mission and Goals

The mission of the college is to advance knowledge, talent and leadership to elucidate Earth processes and history, harness and sustain natural resources and materials, and develop novel solutions to major challenges in energy, environment and wellbeing. We continue a strong tradition of building deep disciplinary expertise along with interdisciplinary teams, focusing on the interfaces of the natural science, social science, and engineering disciplines, where answers to the most pressing problems facing society await discovery.

MORE INFORMATION ABOUT THE MISSION AND GOALS OF THE COLLEGE OF EARTH AND MINERAL SCIENCES (<https://www.ems.psu.edu/about/who-we-are/mission-vision-and-strategic-plan/>)

Accreditation

All five of the college's engineering baccalaureate degree programs (Energy Engineering, Environmental Systems Engineering, Materials Science and Engineering, Mining Engineering, and Petroleum and Natural Gas Engineering) are accredited by the Engineering Accreditation Commission of ABET, <https://www.abet.org>.

Departments and Schools

John and Willie Leone Family Department of Energy and Mineral Engineering

The John and Willie Leone Family Department of Energy and Mineral Engineering offers programs addressing topics such as the effective production, conversion, use, and management of energy. Instruction in theory, applications, and project design is augmented by hands-on training, problem-based learning, and interactive classes with individual attention.

MORE INFORMATION ABOUT THE JOHN AND WILLIE LEONE FAMILY DEPARTMENT OF ENERGY AND MINERAL ENGINEERING (<https://www.eme.psu.edu>)

Department of Geography

The Department of Geography offers a comprehensive academic program that includes bachelor's degrees, minors, and certificates. Programs are designed to educate and inspire students to become critical and committed citizens who contribute to solutions for our planet.

MORE INFORMATION ABOUT THE DEPARTMENT OF GEOGRAPHY (<https://www.geog.psu.edu>)

Department of Geosciences

The Department of Geosciences offers an academic program that include bachelor's degrees, minors, and certificates designed to provide students with an integrated, interdisciplinary study of the whole Earth, afford them with the skills and knowledge needed to solve real-world problems, and prepare them for careers at the forefront of geosciences.

MORE INFORMATION ABOUT THE DEPARTMENT OF GEOSCIENCES (<https://www.geosc.psu.edu>)

Department of Materials Science and Engineering

The Department of Materials Science and Engineering offers an academic program that provides students with a broad understanding of materials as well as the fundamental techniques of science and engineering used in the discipline, and a flexible curriculum that allows students to tailor their degree to their particular interests.

MORE INFORMATION ABOUT THE DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING (<https://www.matse.psu.edu>)

Department of Meteorology and Atmospheric Science

The Department of Meteorology and Atmospheric Science offers a rigorous program devoted to a comprehensive understanding of the atmosphere, weather, and climate, and the methods for applying that specialized knowledge to practical problems. Students study topics ranging from severe weather and numerical weather prediction to climate change and weather risk.

MORE INFORMATION ABOUT THE DEPARTMENT OF METEOROLOGY AND ATMOSPHERIC SCIENCE (<https://www.met.psu.edu>)

Baccalaureate Degrees

- Earth Science and Policy, B.S.
- Earth Sciences, B.S.
- Energy and Sustainability Policy, B.A.
- Energy and Sustainability Policy, B.S.
- Energy Business and Finance, B.S.
- Energy Engineering, B.S.
- Environmental Systems Engineering, B.S.
- Geobiology, B.S.
- Geography, B.A.
- Geography, B.S.
- Geosciences, B.A.
- Geosciences, B.S.
- Materials Science and Engineering, B.S.
- Meteorology and Atmospheric Science, B.S.
- Mining Engineering, B.S.
- Petroleum and Natural Gas Engineering, B.S.

Minors

- Climatology, Minor
- Earth and Sustainability, Minor
- Earth Systems, Minor
- Electrochemical Engineering, Minor
- Energy Business and Finance, Minor
- Energy Engineering, Minor
- Environmental Systems Engineering, Minor
- Geographic Information Science, Minor
- Geography, Minor
- Geophysics, Minor
- Geosciences, Minor
- Information Sciences and Technology for Earth and Mineral Sciences, Minor
- Materials Science and Engineering, Minor
- Meteorology, Minor
- Mining Engineering, Minor
- Petroleum and Natural Gas Engineering, Minor
- Polymer Science, Minor
- Watersheds and Water Resources, Minor

Certificates

- Climate and Environmental Change, Certificate
- Earth Sustainability, Certificate
- Environment and Society Geography, Certificate
- Geographic Information Science, Certificate
- Geospatial Big Data Analytics, Certificate
- Global Environmental Systems, Certificate
- Justice, Ethics, Diversity in Space, Certificate
- Landscape Ecology, Certificate
- Landscapes: Societies, Cultures, and Political Economies, Certificate
- Weather Forecasting, Certificate

College Procedures

Change of Campus

All programs in the College of Earth and Mineral Sciences are completed at the University Park campus; however, students can begin their Penn State courses at any Penn State campus and transition to University Park. To plan for your change of campus, please work closely with your academic adviser.

MORE INFORMATION ABOUT CHANGE OF CAMPUS (<https://www.ems.psu.edu/undergraduate/academic-advising/academic-planning-progress-and-requirements/change-campus/>)

Concurrent Majors

A Concurrent Majors Program is one in which students take courses to concurrently meet the requirements of at least two majors, with graduation for all majors in the program occurring during the same semester. This requires careful planning; students must meet with the faculty adviser in charge of their program for approval.

READ SENATE POLICY 60-00: COMPLETING MORE THAN ONE UNDERGRADUATE MAJOR PROGRAM (<https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/60-00-completing-more->

[than-one-undergraduate-program-concurrent-majors-and-sequential-majors/](https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/60-00-completing-more-))

Academic Warning

A student who fails to earn a 2.00 cumulative grade-point average will be placed on academic warning. A student placed on academic warning will have a hold placed on registration and will be required to meet with an academic adviser in order for this registration hold to be removed. To remove academic warning, the cumulative grade-point average must be 2.00 or higher.

MORE INFORMATION ABOUT ACADEMIC WARNING (<https://www.ems.psu.edu/undergraduate/academic-advising/policies-procedures-and-forms/academic-progress/>)

READ SENATE POLICY 54-20: ACADEMIC WARNING (<https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/54-00-academic-progress/>)

Academic Suspension

A student in academic warning who fails to maintain a semester grade-point average of 2.00 or higher will be academically suspended. A student who has been academically suspended may not schedule courses at the University for two consecutive semesters. (Note: Summer session is equal to one semester.)

A student seeking to return to the College of Earth and Mineral Sciences after suspension must have an advising appointment with an adviser in the Ryan Family Student Center prior to the deadline posted on the college website (<https://www.ems.psu.edu/undergraduate/academic-advising/policies-procedures-and-forms/academic-progress/>).

MORE INFORMATION ABOUT ACADEMIC SUSPENSION (<https://www.ems.psu.edu/undergraduate/academic-advising/policies-procedures-and-forms/academic-progress/>)

READ SENATE POLICY 54-40: ACADEMIC SUSPENSION (<https://senate.psu.edu/students/policies-and-rules-for-undergraduate-students/54-00-academic-progress/>)

Resources

Ryan Family Student Center

The Ryan Family Student Center integrates tutoring, advising, student engagement, student work space, and areas for casual interaction into a one-stop shop for student success. The vibrant and engaging academic atmosphere fosters a warm, welcoming, and small-college feel amid the rich activities taking place on the University Park campus.

MORE INFORMATION ABOUT THE RYAN FAMILY STUDENT CENTER (<https://www.ems.psu.edu/undergraduate/ryan-family-student-center/>)

Office of Educational Equity

Diversity among students and faculty is a top priority for the College of Earth and Mineral Sciences and the Office of Educational Equity takes an active role in promoting respect and embracing diversity and inclusion in the college. The Office of Education Equity maintains a Community Room for small gatherings.

MORE INFORMATION ABOUT THE OFFICE OF EDUCATIONAL EQUITY (<https://www.ems.psu.edu/diversity/>)

Beyond the Classroom

All students in the College of Earth and Mineral Sciences are encouraged to participate in out-of-class experiences such as undergraduate research, study abroad, and internships. Opportunities exist within the college, across the University, and beyond.

MORE INFORMATION ABOUT OPPORTUNITIES BEYOND THE CLASSROOM (<https://www.ems.psu.edu/undergraduate/beyond-classroom/>)

Honors Programs

Schreyer Honors College

The Schreyer Honors College, regarded as one of the nation's top programs of its kind, promotes achieving academic excellence with integrity, building a global perspective, and creating opportunities for leadership and civic engagement. Schreyer Scholars, including those admitted after their first or second year of enrollment, are a diverse and motivated group of approximately 2,000 students at University Park and 20 Commonwealth campuses. The College strives to educate students who will have an important and ethical influence in the world, to improve educational practice, and to continue to be recognized as a leading force in honors education nationwide.

MORE INFORMATION ABOUT THE SCHREYER HONORS COLLEGE (<https://www.shc.psu.edu>)

Contact

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