

# ENERGY AND MINERAL ENGINEERING

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| <b>Graduate Program Head</b> | Shimin Liu                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Program Code</b>          | EME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Campus(es)</b>            | University Park (Ph.D., M.S.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Degrees Conferred</b>     | Doctor of Philosophy (Ph.D.)<br>Master of Science (M.S.)<br>Dual-Title Ph.D. and M.S. in Energy<br>and Mineral Engineering and<br>Transdisciplinary Research on<br>Environment and Society<br>Dual-Title Ph.D. and M.S. in Energy<br>and Mineral Engineering and<br>Operations Research<br>Integrated B.S. in Energy Business<br>and Finance and M.S. in Energy and<br>Mineral Engineering<br>Integrated B.S. in Energy<br>Engineering and M.S. in Energy and<br>Mineral Engineering<br>Integrated B.S. in Environmental<br>Systems Engineering and M.S. in<br>Energy and Mineral Engineering<br>Integrated B.S. in Mining<br>Engineering and M.S. in Energy and<br>Mineral Engineering<br>Integrated B.S. in Petroleum and<br>Natural Gas Engineering and M.S. in<br>Energy and Mineral Engineering |
| <b>The Graduate Faculty</b>  | View ( <a href="https://secure.gradsch.psu.edu/gpms/?searchType=fac&amp;prog=EME">https://<br/>secure.gradsch.psu.edu/gpms/?<br/>searchType=fac&amp;prog=EME</a> )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

- Petroleum and Natural Gas Engineering,
- Mining and Mineral Process Engineering,
- Fuel Science, and
- Energy Systems Engineering.

The John and Willie Leone Family Department of Energy and Mineral Engineering provides a vertically integrated approach to research and education in all aspects of the energy and mineral industries, including scientific and engineering issues, health and safety, and maintenance of high environmental standards. The department's mission is to forge an intellectual and scientific cohesiveness in energy and mineral resource technology. This objective is achieved by exploiting the natural synergy between the exploration, extraction, processing, and utilization of energy and mineral resources so as to cater to the emerging needs of society.

The Energy and Mineral Engineering (EME) program is a single graduate program with a focus on the production of energy and minerals in an economic, safe and efficient manner. The program provides flexible education of students in energy and mineral sciences and engineering, with focus on both non-renewable and renewable resource and energy industries. The program is designed to resolve the sometimes competing goals of flexible education of requisite breadth while still providing in-depth study; students are required to follow a focused curriculum that combines the requisite rigor with flexibility in a rapidly changing field of endeavor. Participating students take select from core program and required option courses and additional courses from a broad array of courses to meet the total credit requirements. Students are not required to choose an option and may complete the base program in EME. However, a student who desires disciplinary identity may choose from among the five following available graduate options: