Department of Petroleum and Natural Gas Engineering, M.S.P.N.G.E, Ph.D.

Degrees Offered

- Masters of Science, Petroleum and Natural Gas Engineering (M.S.P.N.G.E.)
- Masters of Science, Engineering (M.S.E.)
- Doctor of Philosophy, Petroleum and Natural Gas Engineering (Ph.D.)

Departmental Overview

The Petroleum and Natural Gas Engineering (PNGE) graduate programs are designed for students who have already completed a basic petroleum engineering curriculum. The objective of the PNGE graduate programs is to educate students who will be capable of performing at the highest levels of the petroleum and natural gas engineering profession. The programs provide students with the advanced technical knowledge and engineering skills needed by the oil and gas industry in the state, the nation, and the world. Moreover, the programs will make students competent to perform independent research and will prepare them to be the future providers of high quality education in petroleum and natural gas engineering. Graduates have the opportunity to enter all phases of the oil and natural gas industry, government agencies, and academia in meaningful and important jobs.

Areas of Research

- Development of the Unconventional Oil and Gas Resources
- Drilling and Well Completion
- Stimulation
- Reservoir Characterization and Formation Evaluation
- CO₂ Sequestration and Enhanced Oil Recovery
- Reservoir Modeling and Simulation
- Application of Artificial Intelligence and Data Analytics

FACULTY

CHAIR
- Samuel Ameri - M.S.Pet.E., P.E. (West Virginia University)
  Formation Evaluation

PROFESSORS
- Samuel Ameri - M.S.Pet.E., P.E. (West Virginia University)
  Formation Evaluation
- Kashy Aminian - Ph.D. (University of Michigan)
  Natural Gas Engineering, Unconventional Reservoirs
- Shahab Mohaghegh - Ph.D. (Pennsylvania State University)
  Intelligent Systems, Shale Analytics

ASSOCIATE PROFESSORS
- H. Ilkin Bilgesu - Ph.D., P.E. (Pennsylvania State University)
  Drilling and Production Engineering
- Ebrahim Fathi - Ph.D. (University of Oklahoma)
  Phase Behavior

TEACHING ASSOCIATE PROFESSOR
- Mehrdad Zamirian - Ph.D. (West Virginia University)
  Property Evaluation

ASSISTANT PROFESSORS
- Ming Gu - Ph.D. (University of Texas)
  Rock Mechanics
• Mohamed El Sgher - Ph.D. (West Virginia University)
  Production, Unconventional Gas

ADJUNCT PROFESSORS
• Alan Brannon - Ph.D. (West Virginia University)
  Petroleum Engineering Fundamentals
• Josh Dalton - MSPNGE (West Virginia University)
  Drilling and Stimulation
• Pramod Thakur - Ph.D. (Pennsylvania State University)
  Coalbed Methane Development

Master Admissions
To be eligible for admission into the Master of Science in Petroleum and Natural Gas Engineering degree program, a candidate must fulfill the following requirements:

• B.S. degree in engineering from an ABET-accredited or internationally-recognized engineering program or equivalent with a minimum GPA of 3.0 (on a 4.0 scale).
• A statement of purpose.
• At least three recommendation letters (one letter must be from the applicant’s academic advisor or equivalent.)
• International applicants must meet the WVU requirement of English language proficiency (https://graduateadmissions.wvu.edu/how-to-apply/apply-for-2023-2024/international-graduate-applicant/).

Doctoral Admissions
To be eligible for admission into the doctoral program, a candidate must fulfill the following requirements:

• Degree in petroleum engineering from an ABET-accredited or an internationally-recognized petroleum engineering program, with a minimum GPA in a B.S. program of 3.0/4.0 or an M.S. program of 3.2/4.0.
• A statement of purpose.
• At least three recommendation letters (one letter must be from the applicant’s previous thesis advisor or an academic equivalent.)
• All applicants for the doctoral program must submit GRE scores, and score in at least the seventy-fifth percentile (75%) on the quantitative section.
• International applicants must meet the WVU requirement of English language proficiency (https://graduateadmissions.wvu.edu/how-to-apply/apply-for-2023-2024/international-graduate-applicant/).

Admission Requirements 2024-2025
The Admission Requirements above will be the same for the 2024-2025 Academic Year.

MSPNGE Major Code: 3075
PhD Major Code: 3076

For specific information on the following program, please see the links to the right:
• Petroleum and Natural Gas Engineering, M.S.P.N.G.E.

For specific information on the following program, please see the links to the right:
• Petroleum and Natural Gas Engineering, Ph.D.