

# Petroleum and Natural Gas Engineering, M.S.P.N.G.E.

## Curriculum in Master of Science in Petroleum and Natural Gas Engineering

A candidate for the M.S. degree in petroleum and natural gas engineering must comply with the rules and regulations as outlined in the WVU Graduate Catalog and the specific requirements of the Statler College and the Petroleum and Natural Gas Engineering Department.

### Program Requirements

All M.S. degree candidates are required to perform research and follow a planned program of study. The student's research advisor, in conjunction with the student's Advising and Examining Committee (AEC) will be responsible for determining the plan of study appropriate to the student's needs. The underlying principle of the planned program is to provide the students with the necessary support to complete their degree and prepare them for their career.

### Curriculum Requirements

Code	Title	Hours
A minimum cumulative GPA of 3.0 is required in all courses		
<b>Course Requirements *</b>		
A minimum of 60% of courses must be from 500 level or above		
A maximum of three credit hours each of Graduate Seminar (PNGE 796) and Independent Study (PNGE 695) can be counted towards meeting the coursework requirements.		
Plan of Study		
Graduate Seminar **		3
PNGE 796	Graduate Seminar	
Any PNGE course 400-795		15
Any BIOM, BMEG, CE, CHE, CHEM, CPE, CS, EE, IENG, IH&S, GEOL, MAE, MATH, MINE, PNGE, PHYS, SAFM, SENG, or STAT courses 400-795, as approved by the student's AEC.		6
Complete 1 of the following options:		6
<b>Thesis Option - 6 hours</b>		
PNGE 697	Research (6 hours)	
Thesis		
Final Oral or Written Examination		
<b>Problem Report Option - 6 hours</b>		
Complete 3 additional hours of coursework		
PNGE 697	Research (3 hours)	
Formal written report or professional report/paper		
Final Oral or Written Examination		
Total Hours		30

\* Students who do not hold a baccalaureate degree in petroleum and natural gas engineering are required to take a set of undergraduate engineering courses above and beyond the minimum coursework requirements

\*\* All students are required to take Graduate Seminar (PNGE 796) for each semester enrolled.

### Final Examination

M.S. students following the thesis or problem report option must prepare a written research proposal. The proposal must be approved by the student's AEC at least one semester prior to the final oral examination.

All students, regardless of option, are required to pass a final oral or written examination, administered by their AEC, covering the thesis or problem report and/or related course material.

## Suggested Plan of Study

The plan below illustrates the Thesis Option. It is important for students to take courses in the order specified as much as possible; all prerequisites and concurrent requirements must be observed. A typical M.S.P.N.G.E degree program that completes degree requirements in one and half years is as follows.

### First Year

Fall	Hours	Spring	Hours
PNGE 796		1 PNGE 796	1
Course		3 PNGE 697	3
Course		3 Course	3
Course		3 Course	3
		10	10

### Second Year

Fall	Hours	
PNGE 796	1	
PNGE 697	3	
Course	3	
Course	3	
		10

Total credit hours: 30

## Major Learning Outcomes

### PETROLEUM AND NATURAL GAS ENGINEERING

- Graduates will have in-depth knowledge of petroleum and natural gas engineering principles and applications to function effectively in their profession or continue their education.
- Graduates will have the ability to perform independent research to solve engineering and scientific problems encountered in their profession.
- Graduates will have in-depth petroleum and natural gas scientific and engineering knowledge to provide high quality education in petroleum and natural gas engineering.