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

A minimum cumulative GPA of 3.0 is required in all courses

Course Requirements

A minimum of 60% of courses must be from 500 level or above

All students are required to take Graduate Seminar (PNGE 796) for each semester enrolled. 3

PNGE 796 Graduate Seminar

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.

Any PNGE course 400-799 15

Any BIOM, CE, CHEM, CPE, CS, EE, IENG, IH&S, GEOL, MAE, MATH, MINE, PNGE, PHYS, SAFM, SENG, or STAT courses 400-799 6

Complete 1 of the following options: 6-9

Thesis Option - 6 hours

PNGE 697 Research (6 hours)

Written Research Proposal

Thesis

Final Oral or Written Examination

Problem Report Option - 9 hours

Complete 6 additional hours of coursework

PNGE 697 Research (3 hours)

Written Research Proposal

Formal written report or professional report/paper

Final Oral or Written Examination

Total Hours 30-33

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Hours</th>
<th>Spring Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNGE 796</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Course</td>
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</tr>
<tr>
<td>Course</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Course</td>
<td>3</td>
<td>3</td>
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</tbody>
</table>

Total credit hours: 10

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Fall Hours</th>
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</thead>
<tbody>
<tr>
<td>PNGE 796</td>
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</tr>
<tr>
<td>PNGE 697</td>
<td>3</td>
</tr>
<tr>
<td>Course</td>
<td>3</td>
</tr>
</tbody>
</table>

Total credit hours: 10-12

**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.