Petroleum Reservoir Systems

Degree Offered

• Professional Masters in Petroleum Reservoir Systems (Non-Thesis)

Program Description

The Professional Masters in Petroleum Reservoir Systems (PMPRS) is a coursework-based (non-thesis) degree designed for individuals who have petroleum industry experience and are interested in deepening their knowledge across the disciplines of geology, geophysics, and petroleum engineering.

Teaching assistant and research assistant positions are not available for PMPRS students.

Enrollment is open for Fall and Spring semesters. The degree typically takes 3 semesters (1.5 years) to complete. Students may apply to the program through any of the three participating departments: the Department of Geophysics, the Department of Geology and Geological Engineering, or the Department of Petroleum Engineering.

Program Requirements

The Professional Masters in Petroleum Reservoir Systems (PMPRS) (Non-Thesis) degree is designed for individuals who have petroleum industry experience and are interested in increasing their knowledge across the disciplines of geology, geophysics, and petroleum engineering.

Teaching assistant and research assistant positions are not available for PMPRS students.

Enrollment is open for Fall and Spring semesters. The degree typically takes 3 semesters (1.5 years) as no summer courses are available. Students may enroll part-time.

Mines' Combined Undergraduate / Graduate Degree Program

Students enrolled in Mines' combined undergraduate/graduate program (meaning uninterrupted registration from the time the student earns a Mines undergraduate degree to the time the student begins a Mines graduate degree) may double count up to six hours of credits which were used in fulfilling the requirements of their undergraduate degree at Mines, towards their graduate program. Any courses that count towards the graduate degree requirements as either "Required Coursework" or "Elective Coursework", may be used for the purposes of double counting at the discretion of the advisor (MS Non-Thesis) or thesis committee (MS Thesis or PhD). These courses must have been passed with a "B-" or better and meet all other University, Department, Division, and Program requirements for graduate credit.

The PMPRS program requires a minimum of 30 credit hours. Up to 9 credit hours may be at the 400 level. All other credits toward the degree must be 500 level or above.

(A) 1 course (3.0 hours) selected from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPGN/PEGN419</td>
<td>INTRODUCTION TO FORMATION EVALUATION AND WELL LOGGING</td>
<td>3.0</td>
</tr>
<tr>
<td>GPGN519/PEGN504</td>
<td>ADVANCED FORMATION EVALUATION</td>
<td>3.0</td>
</tr>
</tbody>
</table>

(B) 2 courses (6.0 hours) selected from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEGN/GPGN/GEGN503</td>
<td>INTEGRATED EXPLORATION AND DEVELOPMENT</td>
<td>3.0</td>
</tr>
<tr>
<td>GEGN/GPGN/GPGN504</td>
<td>INTEGRATED EXPLORATION AND DEVELOPMENT</td>
<td>3.0</td>
</tr>
<tr>
<td>GEOL609</td>
<td>ADVANCED PETROLEUM GEOLOGY</td>
<td>3.0</td>
</tr>
</tbody>
</table>

(C) 3 additional courses (9.0 hours) must consist of one course each from the 3 participating departments

(D) The remaining 4 courses (12.0 hours) may consist of graduate courses from any of the three participating departments or other courses approved by the committee. Up to 6 hours may consist of independent study, including an industry project.

Prerequisites

Students must possess one of the three backgrounds below in order to apply for the program.

Geology and Geological Engineering:

• General Geology
• Structural Geology
• Mineralogy
• Petrology
• Stratigraphy
• Chemistry (2 semesters)
• Mathematics (2 semesters of calculus)
• An additional science course (other than geology) or advanced mathematics
• Physics (2 semesters)

Geophysics and Geophysical Engineering:

• Physics (2 semesters)
• Mathematics (at least 2 semesters of Calculus, 1 semester of Differential Equations)
• Applied Geophysics (GPGN314, or course work or professional equivalent)
• Geophysical Computing/Computational Geophysics
• Stratigraphy
• Structural Geology

Petroleum Engineering:

• Rock properties
• Reservoir fluid properties
• Drilling engineering
• Structural geology or sedimentology/stratigraphy
• Petroleum production
• Reservoir engineering
• Chemistry (2 semesters)
• Mathematics (3 semesters of calculus; 1 semester of differential equations)
• Physics (2 semesters)
• Fluid mechanics
• Thermodynamics
• Mechanics of materials
• Statics

**Director and Professor**

Stephen A. Sonnenberg, Charles Boettcher Distinguished Chair in Petroleum Geology