CBM03 ADD/CHANGE FORM

1. Department: CHE ENG  College: ENGR

2. Person Submitting Form: Dr. Michael P. Harold  Telephone: 34307

3. Course Information on New/Revised course:
   - Instructional Area / Course Number / Long Course Title:
     PETR / 3211 / Petroleum Engineering Lab
   - Instructional Area / Course Number / Short Course Title (30 characters max.):
     PETR / 3211 / PETR ENGR LAB
   - SCH: 2.00  Level: IR  CIP Code: 14.2501.00  Lect Hrs: 0  Lab Hrs: 2

4. Justification for adding/changing course: To provide for new discipline areas

5. Was the proposed/revised course previously offered as a special topics course?  ☐ Yes  ☒ No
   If Yes, please complete:
   - Instructional Area / Course Number / Long Course Title:
     ___ / ___ / ___
   - Content ID: ___  Start Date (yyyy3): ___

6. Authorized Degree Program(s):  BS, Petroleum Eng
   - Does this course affect major/minor requirements in the College/Department?  ☒ Yes  ☐ No
   - Does this course affect major/minor requirements in other Colleges/Departments?  ☐ Yes  ☒ No
   - Are special fees attached to this course?  ☒ Yes  ☐ No
   - Can the course be repeated for credit?  ☐ Yes  ☒ No

7. Grade Option: Letter (A, B, C,...)  Instruction Type: laboratory ONLY  (Note: Lect/Lab info. must match item 3, above.)

8. If this form involves a change to an existing course, please obtain the following information from the course inventory: Instructional Area / Course Number / Long Course Title
   ___ / ___ / ___
   - Start Date (yyyy3): ___  Content I.D.: ___

9. Proposed Catalog Description: (If there are no prerequisites, type in "none".)
   Cr. 2. (0-2-0)  Prerequisites: MATH2433, PHYS1322, INDE2333, PETR1111, and PETR2311. Corequisites: PETR 3313, PETR 3315, and PETR 3321.  Description (30 words max.):
   Determination of rock porosity, permeability, density, fluid saturation, capillary pressure, compressive and tensile strength, mechanical properties of rocks, etc.

10. Dean's Signature: ___________________________  Date: 3/6/08
    Print/Type Name: Joseph Tedesco, Dean
Cullen College of Engineering  
**UC 9782 08F**  
CBM003 Supplement - B Form  
(New Course)  
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**Must be attached to CBM003 form**

<table>
<thead>
<tr>
<th>Course: PETR</th>
<th>3211</th>
<th>Subject Prefix</th>
<th>Course Number</th>
</tr>
</thead>
</table>

1. **Course Title:** Petroleum Engineering Lab  
   Print course inventory screen using RARCAS/CATM and attach.

2. **Pre-requisite/Co-requisite:** MATH 2433, PHYS 1322, INDE 2333, PETR 1111, PETR 2311. Co-requisites: PETR 3313, PETR 3315, & PETR 3321.

3. **Rational for Course Format:** University Format.

4. **Rational for Course Content:** To train students in the practice of Petroleum Engineering concepts through experimentation.

5. **ABET Constituents consulted:** Group of Petroleum Engineering graduates and PE Industrial Advisory Board.

6. **State Course Outcomes:** Students learn how to prepare rock samples and measure formation properties important for petroleum engineering.

7. **Course Performance after implementing format and content changes:**

8. **Is course required?**  
   X Yes  
   □ No

9. **Required course outline attached?**  
   X Yes  
   □ No

10. **Estimated student demand**  
    50  
    per semester

11. **Similar courses in other departments:**  
    □ Yes  
    XNo

   a. **If yes, list course(s):**

12. **Is course part of a sequence?**  
    □ Yes  
    XNo

   a. **If Yes, identify the sequence and comment on the relation to prior and subsequent courses:**

13. **Textbook(s) and other required materials:**

**Note:** Special Fees: If special fees requested, Course Related Fee Request Form will be required.

The PE Lab fee would be used to purchase consumable supplies such as gases & chemicals and maintenance on instructional materials, salary for students as laboratory assistants for Fall, Spring and Summer.

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1 Department reports will be requested about the effects of your new course on your curriculum both 12 and 24 months after the effective date for this new course.
Course description: Determination of rock porosity, permeability, density, fluid saturations, capillary pressure, rock compressive and tensile strength, mechanical properties of rocks, etc.

Pre-requisites: MATH 2433, PHYS 1322, INDE 2333, PETR 1111, PETR 2311. Co-requisites: PETR 3313, PETR 3315, & PETR 3321.

Course objectives: Students learn the basic rock properties controlling reservoir behavior and how they are measured in the laboratory.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rock sample preparation</td>
<td>3</td>
</tr>
<tr>
<td>Porosity Measurement</td>
<td>2</td>
</tr>
<tr>
<td>Permeability measurement</td>
<td>2</td>
</tr>
<tr>
<td>Density measurement</td>
<td>2</td>
</tr>
<tr>
<td>Fluid saturation measurements</td>
<td>3</td>
</tr>
<tr>
<td>Capillary pressure measurement</td>
<td>2</td>
</tr>
<tr>
<td>Compressive and tensile strength of rocks</td>
<td>5</td>
</tr>
<tr>
<td>Mechanical properties of rocks</td>
<td>5</td>
</tr>
<tr>
<td>Statistical data analysis</td>
<td>2</td>
</tr>
<tr>
<td>Report writing</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>28 hrs</strong></td>
</tr>
</tbody>
</table>

Method of evaluation
- Class participation: 10%
- Laboratory reports: 70%
- Final examination: 20%

Contributions to professional component
The students learn which formation properties are important in determination of reserves and how to measure them in the laboratory.