Request for CHANGING an Existing Course

Department: School of Education
Course Rubric and #: EDCI 3625
College: Human Sci & Educ
Date: 8-22-13

Present Course Description

Title: Student Teaching in the Elementary Grades

Semester Hours of Credit: 9

If combination course type, # hrs. of credit for:
lecture: 1
lab/sem/rec: 8

Repeat Credit Max (if repeatable): 

Graduate Credit? Yes: ___ No: ___

Credit will not be given for this course and:

Contact Hours Per Week: (Indicate hours in appropriate course type.)
LEC 1 LAB 24 SEM 24 REC 0 REM 0 CLIN/PRAC X

Total Weekly Contact Hours: 25

Grading System: Letter Grade ___ Pass/Fail ___

Course Description:
EDCI 3625 Student Teaching in the Elementary Grades (9)
Prereq.: See "Requirements for Student Teaching" Pass-fail grading. 1 hr. lecture; 24 hrs. lab in diverse multicultural settings. All day, all semester student teaching experiences, including classroom activities, participation and a minimum of 180 actual clock hours of teaching (with a substantial portion of the 180 hrs. in full-day teaching) under the professional supervision of an assigned public school mentor teacher.

Proposed Course Description

Title: Student Teaching in the Elementary Grades

Short Title: STU TEACH ELEM GDS

Semester Hours of Credit: 9

If combination course type, # hrs. of credit for:
lecture: 1
lab/sem/rec: 8

Repeat Credit Max (if repeatable): 

Graduate Credit? Yes: ___ No: ___

Credit will not be given for this course and:

Contact Hours Per Week: (Indicate hours in appropriate course type.)
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THESE QUESTIONS MUST BE ANSWERED COMPLETELY AND ACCURATELY OR PROPOSAL WILL BE RETURNED.

Has this change been discussed with and approved by all departmental colleges affected? Yes (X) No ( ) N/A ( )

Is this course included in any curricula, concentrations, or minors? Yes (X) No ( ) If yes, please list on a separate sheet.

Is this course a prerequisite or corequisite for other courses? Yes ( ) No (X) If yes, list courses; use separate sheet.

Is this course on the General Education list? Yes ( ) No (X)

JUSTIFICATION/EXPLANATION: Use separate sheet.

Note: IF COURSE IS OR WILL BE CROSS-LISTED, SEPARATE FORMS MUST BE SUBMITTED BY EACH DEPARTMENT.

APPROVALS:

Department Faculty Approval Date 08-23-13
Department Chair's Signature 08-30-13 (Date)
Graduate Dean's Signature (Date)

College Faculty Approval Date 9-30-13
College Dean's Signature (Date)
Chair, FS C & C Committee (Date)

College Contact Casey Bennett
(Please print name.)
College Contact E-mail: cbenne5@lsu.edu

Academic Affairs Approval (Date)
Curricula/Concentration
This course is included in the following curriculum/concentration:
B.S. in Elementary Grades Education (4-year concentration, grades 1-5 teacher certification)

Justification
The course change proposed is to change EDCI 3625 from pass-fail to a graded course. Faculty in the elementary education program feel the grade will better reflect student performance in this course and more accurately indicate the variation in student ability. Program assessment data in teaching and learning, curriculum and instructional strategies, and clinical and field experience reflect a range of student performance that is not reflected using the pass/fail grade. A course grade would better align these data points.
EDCI 3625
Student Teaching, Elementary Education

School Assignment/Placement TBD by Office of Field Experiences
Cohort Seminar Times/Location TBD by University Supervisor
Contact information of University Supervisor will be provided.

Catalog Description
The student teaching practicum offered each fall and spring semester is scheduled as an all-day, all-week experience. LSU requirements for the student teaching experience far surpass the state minimum requirement of 270 clock hours, 180 of which must be actual teaching with a substantial portion thereof on an all-day basis.

To be permitted to student teach in the elementary grades, students must meet the following requirements:
- LSU and cumulative grade-point averages of 2.50 with no grade lower than "C" in professional education courses and in specialized courses required for certification, regardless of institution(s) attended.
- Completion of all prerequisite courses in the education curriculum.
- Proficiency in written expression.

EDCI 3625 - Student Teaching in the Elementary Grades (9) Prereq.: see "Requirements for Student Teaching" in the General Catalog. 1 hr. lecture; 24 hrs. lab in diverse multicultural settings. All day, all semester student teaching experiences, including observation, participation and a minimum of 180 actual clock hours of teaching (with a substantial portion of the 180 hrs. in full-day teaching) under the professional supervision of an assigned public school mentor teacher.

Student Teaching
Application for Student Teaching
Application for student teaching must be made to the CHSE Office of Student Services no later than three weeks after classes begin in the semester prior to student teaching. Late applicants cannot be guaranteed consideration.

Requirements for Student Teaching
The student teaching semester is scheduled as an all-day, all-week experience. LSU requirements for the student teaching experience far surpass the state minimum requirements of 270 clock hours, 180 of which must be actual teaching with a substantial portion thereof on an all-day basis.

All course requirements must be completed prior to student teaching, other than those courses requiring concurrent enrollment with student teaching. No student may schedule course work in addition to that required during the student teaching semester(s) without prior approval by the dean of the College of Human Sciences and
Education through the Office of Student Services. Students are advised to schedule no more than 15 hours of employment weekly during student teaching.

Disability Services/Special Needs
If you require specific accommodations in order to overcome barriers to the achievement of personal and academic goals due to an identified disability, please contact:

The Office of Disability Services
122 Johnston Hall
(225) 578-5919 (voice) or (225) 578-2600 (TDD)
FAX (225) 578-4820

Student Teachers and interns who require accommodations should notify the Coordinator of Field Experiences to present the official accommodation and to determine if the needs can be accommodated during clinical practice.

Academic Honesty
Cheating will not be overlooked or tolerated. All cases of suspected academic dishonesty will be reported according to the guidelines and regulations established by Louisiana State University. It is the student’s responsibility to be knowledgeable of university regulations regarding academic behavior such as independent work, appropriate citation of sources, and plagiarism.

Special care should be taken when making reference to information gathered from Internet sources. These sources, if used, must be cited appropriately. Failing to appropriately acknowledge your sources constitutes academic dishonesty. Sources from the Internet are generally not subject to an external review and the student must be cautious regarding their accuracy.

Please note that while we strongly promote collaboration with your fellow student teachers, unless specifically identified as a collaborative project, all work should be completed independently. Unless specified as a collaborative project, the rules and consequences regarding plagiarism will apply and the student is encouraged to obtain and review the student handbook for guidelines.

Course Objectives
Students completing this course will be able to:
- Effectively design and implement instruction
- Foster a positive, well managed learning environment
- Manage and monitor student behavior and learning
- Use multiple assessments to plan, guide and modify instruction, the classroom environment, and the assessment process
- Display professional dispositions
Attendance
Student teachers/interns must assume the same responsibility for absences expected of a regularly employed teacher. Only absences due to illness or emergency are considered excused absences. The Classroom Mentor Teacher, the University Supervisor, and the Office of Field Experiences MUST be notified when student teachers/interns are absent.

Following is an excerpt from the LSU General Policy PS 22:

**LSU GENERAL POLICY PS 22**
Class attendance is the responsibility of the student. The student is expected to attend all classes. A student who finds it necessary to miss class assumes responsibility for making up examinations, obtaining lecture notes, and otherwise compensating for what may have been missed. The course instructor will determine the validity of a student’s reason(s) for absences and will assist those students who have valid reasons. Valid reasons for absences include:

1. Illness
2. Serious family emergency
3. Special curricular requirements such as judging trips or field trips
4. Court-imposed legal obligations such as subpoenas or jury duty
5. Military obligations
6. Serious weather conditions
7. Religious holidays
8. Participation in varsity athletic competitions or university musical events

Overview and Correlation to the Program
EDCI 3625 serves as the final course in the elementary and dual certification teacher education programs. It provides the student teacher with the opportunity to integrate theory, practice and reflection in diverse classroom settings. During this practicum, the student participates in a support team consisting of a mentor teacher, university supervisor, and peer cohort.

Field-based Experiences and Artifacts
For the elementary student teaching practicum, candidates are placed in a single setting for the entire semester. Information from previous field placements are reviewed and considered when identifying the field placement for the student teaching semester. Student teachers compile a comprehensive portfolio according to Portfolio Guidelines in the handbook documenting their teaching experiences.

For the SPED student teacher practicum, candidates are placed half of the time in an elementary setting taking on the roles of the elementary teacher and half of the time with a SPED teacher performing the roles of the SPED teacher in various classroom situations.
Course Requirements

The Student Teaching Portfolio
The portfolio, central to the practicum, has many and varied purposes: to document growth as a beginning teacher, to promote reflection, to enhance understanding of practicum experiences, to facilitate communication among all involved in the practicum; and, to serve as a basis from which the practicum grade is derived. The portfolio should be current and available to the University Supervisor/Clinical Faculty at all times.

Requirements for the student teaching portfolio can be found in the student teaching handbook. University Supervisors/Clinical Faculty will provide guidelines as to which forms should be used. Sections of the portfolio should be clearly delineated and labeled.

Reflective Practice
Student teachers practice self-reflection through a series of written activities including video analysis, weekly lesson reflections, weekly general reflections, analysis of assessments (pre-assessment, formative assessment, and post-assessment) in conjunction with the unit plan developed and taught, and mid-semester and final self-evaluations.

Effective Professionalism
Student teachers are expected to demonstrate professional dispositions such as enthusiasm for learning and teaching and the belief that all children can learn. Candidates continue to grow and develop as professionals through large group topical seminars, professional readings/discussion in weekly cohort meetings, professional development workshops and training attended at the school sites. Attendance at and participation in each of the above is an indication of professionalism and is assessed using the Candidate Evaluation Instrument. The Professional Growth Plan serves as evidence of the candidate growing and developing as a professional teacher.

Inquiring Pedagogy
Reflective practice is the foundation for all teacher preparation programs. Reflecting on student diversity, student assessments, curriculum standards, as well as the social context of school serves to guide candidates as they engage in the planning, instructing, and assessment cycle of teaching. All teaching in this respect is inquiry based.

Attention to Diverse Student Populations
Candidates are provided with experience teaching and observing in both inner-city and suburban schools with diverse student populations.

Instructional Support
Observations in various settings
Large-group seminars
Bi-weekly reflective cohort seminars facilitated by university supervisors
Individual mentoring by the classroom teacher and the university faculty member
Integration of Technology
Student teachers are expected to utilize technology in planning, teaching, and documenting one’s student teaching experience. The integration of technology throughout their lessons and daily activities to enhance student learning is strongly encouraged during the student teaching practicum.

Methods of Assessment
- Written and verbal feedback from the mentor teacher and university supervisor
- Written feedback of candidate’s teaching performance
- On-going review of portfolio
- Assessment of the Integrated Unit Plan
- Mid-semester and final evaluations by university supervisor and classroom mentor teacher

Course Evaluation/Grading
Candidates are expected to demonstrate excellence in knowledge, skills, and dispositions of a practicing teacher. Please see attached grading rubric.

Program Feedback
- Candidate Feedback of the program
- Candidate Feedback of the Classroom Mentor Teacher
- Candidate Feedback of the University Supervisor
- Classroom Mentor Teacher Feedback of the University Supervisor and the Program
- University Supervisor Feedback of the Classroom Mentor Teacher

Large Group Seminars
- Professional organizations
- Resume writing, interviewing and securing a teaching job
- Professional development (content and pedagogy)
- Local, state and national standards and policies
- Legal issues in education including mandatory reporting of child abuse and neglect (Child Neglect and Abuse Law SB 797 – Children’s Code Article 601 et seq.)
- Safe Space Training for teachers with students who are or who have parents who are gay, lesbian, bisexual, or transgendered.

Bi-Weekly Cohort Meetings
Cohort Meetings with University Supervisor are held to assist teacher candidates in dialogue that promotes their understanding of the link between theory, research, and practice. Cohort topics include those listed below and that emanate from candidate needs identified through classroom experiences, self-reflection, outside observations and from observations of the candidate by the university supervisor and the classroom mentor teacher.
Cohort Meeting Topics:
Details of topics provided by the university supervisor

- Conceptual Framework for LSU's Education Programs
- Classroom Management
- Planning/Lesson Design
- Technology in the Classroom
- Instruction/Lesson Deliver/Lesson Implementation
- Assessment and Evaluation of Students and Teachers
- Partnership for Assessment of Readiness for College and Careers (PARCC) Assessments
- School and state accountability (school report card)
- Teacher accountability
- Communication with and Involvement of Parents
- Professional Responsibilities of a Teacher (life-long learning, ethics of the profession and collaboration.)

Materials/Resources for Cohort Meetings

Required Text:

There are electronic and print materials on various subjects in the Office of Field Experiences available for cohort meetings.

Middleton Library has an education section available for supervisors and student teachers.
<table>
<thead>
<tr>
<th>Knowledge, Skills, and Dispositions as evidenced by the Candidate Evaluation Instrument</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received overall score of Exceeds Expectations on the Candidate Evaluation Rubric</td>
<td>Received overall score of Meets Expectations on the Candidate Evaluation Rubric</td>
<td>Received overall score of Approaching Expectations on the Candidate Evaluation Rubric</td>
<td>Failed to demonstrate competency as evidenced by the Candidate Evaluation Rubric</td>
<td></td>
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<tr>
<td>Clinical Placement Attendance</td>
<td>Achieved beyond 221 teaching hours</td>
<td>Achieved between 201-220 teaching hours</td>
<td>Achieved between 180-200 teaching hours</td>
<td>Failed to achieve a minimum of 180 teaching hours as required for licensure</td>
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<tr>
<td>Professionalism</td>
<td>Received overall score of Exceeds Expectations (score of 3) on the Professionalism domain on the Candidate Evaluation Rubric</td>
<td>Received overall score of Meets Expectations (score of 2) on the Professionalism domain on the Candidate Evaluation Rubric</td>
<td>Received overall score of Approaching Expectations (score of 1) on the Professionalism domain on the Candidate Evaluation Rubric</td>
<td>Failed to achieve at least a score of 1 on the Professionalism domain on the Candidate Evaluation Rubric</td>
</tr>
<tr>
<td>Contribution to Cohort Meetings</td>
<td>Demonstrated excellent preparation for and effectively contributed to discussions in cohort meetings</td>
<td>Demonstrated acceptable preparation for and contribution to discussions in cohort meetings</td>
<td>Demonstrated limited preparation for and little contribution to discussions in cohort meetings</td>
<td>Failed to prepare for and contribute to discussions in cohort meetings</td>
</tr>
<tr>
<td>Reflective Practice (lesson reflections, weekly reflections, self-evaluations, video analyses, classroom management plans, and outside observations assignments)</td>
<td>Demonstrated a refined ability to identify and analyze teaching strategies, connect theory to practice, and apply findings to future instructional situations</td>
<td>Demonstrated the ability to identify and analyze teaching strategies, connect theory to practice, and apply findings to future instructional situations</td>
<td>Demonstrated a limited ability to identify and analyze teaching strategies, connect theory to practice, and apply findings to future instructional situations</td>
<td>Failed to demonstrate the ability to identify and analyze teaching strategies, connect theory to practice, and apply findings to future instructional situations</td>
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<td>Impact on Student Learning</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>0</td>
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<td>(formal and informal assessments including lesson plans, unit plans, etc.)</td>
<td>Demonstrated a refined ability to use the results of multiple assessments to plan, guide, and modify instruction, classroom environment, and the assessment process resulting in a positive impact on student learning</td>
<td>Demonstrated the ability to use the results of multiple assessments to plan, guide, and modify instruction, classroom environment, and the assessment process resulting in a positive impact on student learning</td>
<td>Demonstrated a limited ability to use the results of multiple assessments to plan, guide, and modify instruction, classroom environment, and the assessment process resulting in a positive impact on student learning</td>
<td>Failed to demonstrate the ability to use the results of multiple assessments to plan, guide, and modify instruction, classroom environment, and the assessment process resulting in a positive impact on student learning</td>
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<tr>
<td>Practicum Portfolio Requirements</td>
<td>Portfolio was current and available at all times, and included all required elements, was free of errors and well organized</td>
<td>Portfolio was current and available at all times and included all required elements in an organized fashion</td>
<td>Portfolio was incomplete and/or not current and/or lacked organization</td>
<td>Portfolio was not available</td>
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</tbody>
</table>

| A | Score of 3 in five or more competencies |
| B | Score of 2 in three competencies |
| C | Score of 1 in any competency |
| D | Score of 1 in one competency and 0 in one competency OR Score of 0 or 1 in the first competency (Knowledge, Skills, Dispositions) |
| F | Score of 1 in two competencies and 0 in one competency |
At their October 15th, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following actions regarding the EDCI proposals.

**EDCI 3625**
- The Committee conditionally approved the proposal to add EDCI 3625 pending a revised syllabus that clearly defines what is to be graded and to what percentage or degree are these components worth. The syllabus should provide the student with a clear rubric of grading criteria.

**EDCI 7112**
- The Committee approved the proposal to add EDCI 7112 but requested the course description be shortened. The Committee suggested using the first sentence only.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastrl@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.
# Request for CHANGING an Existing Course

### Present Course Description

**Title:** Basin Analysis  
**Semester Hours of Credit:** 3  
**Graduate Credit?** Yes [X] No [ ]  
Credit will not be given for this course and:  
**Contact Hours Per Week:** (Indicate hours in appropriate course type.)  
<table>
<thead>
<tr>
<th>LEC</th>
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<th>RES/IND</th>
<th>CLIN/ PRACT</th>
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**Course Description:**  
Geo4131 Basin Analysis (3) Prereq.: Geo 3032. Basic environment of sediment deposition; sedimentological models and their relationships within depositional basins; analysis of theoretical basin models and comparison with modern and ancient sedimentary basins.

### Proposed Course Description

**Title:** Basin Analysis  
**Short Title:** BASIN ANALYSIS  
**Semester Hours of Credit:** 3  
**Graduate Credit?** Yes [X] No [ ]  
Credit will not be given for this course and:  
**Contact Hours Per Week:** (Indicate hours in appropriate course type.)  
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**Course Description:**  
Geo4131 Basin Analysis (3) Prereq.: Geo 3032 or Geo3200 or permission of the instructor. Basic environment of sediment deposition; sedimentological models and their relationships within depositional basins; analysis of theoretical basin models and comparison with modern and ancient sedimentary basins.

### Additional Information

**THESE QUESTIONS MUST BE ANSWERED COMPLETELY AND ACCURATELY OR PROPOSAL WILL BE RETURNED.**

- Has this change been discussed with and approved by all departments/colleges affected? Yes [X] No [ ] N/A [ ]
- Is this course included in any curricula, concentrations, or minors? Yes [ ] No [X] If yes, please list on a separate sheet.
- Is this course a prerequisite or corequisite for other courses? Yes [X] No [ ] If yes, list courses; use separate sheet.
- Is this course on the General Education list? Yes [X] No [ ]

**JUSTIFICATION/EXPLANATION:** Use separate sheet.

Note: IF COURSE IS OR WILL BE CROSS-LISTED, SEPARATE FORMS MUST BE SUBMITTED BY EACH DEPARTMENT.

**APPROVALS:**

<table>
<thead>
<tr>
<th>Department Faculty Approval Date</th>
<th>College Faculty Approval Date</th>
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<tbody>
<tr>
<td>Aug 21 2013 (Carol M. Wicks)</td>
<td>10/3/13</td>
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<tr>
<th>Department Chair's Signature (Date)</th>
<th>College Dean's Signature (Date)</th>
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<tr>
<td>(Carol M. Wicks)</td>
<td>(Chair, FS C &amp; C Committee)</td>
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<tr>
<th>Graduate Dean's Signature (Date)</th>
<th>College Contact:</th>
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<tbody>
<tr>
<td>(Kim Kubicek)</td>
<td><a href="mailto:Kim_Kubicek@isu.edu">Kim_Kubicek@isu.edu</a></td>
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<table>
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<tr>
<th>College Contact E-mail</th>
<th>Academic Affairs Approval (Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td><a href="mailto:KKubicek@isu.edu">KKubicek@isu.edu</a></td>
<td>11/20/13 (T. A. Glamis)</td>
</tr>
</tbody>
</table>
I request this change in the requirements for the course in order to allow motivated geology and petroleum engineering students to be admitted in the event that space makes that possible.
The changes in the prerequisites for this course reflect the changed character of the course under Dr. Peter Clift who is teaching a different content to what preceded his arrival at LSU. The old prerequisites reflect the old course, none of whose material is being used in either new course. GEOL 3200 was added as a prerequisite in order to facilitate petroleum engineers to take part in this class. There is significant interest within that group in taking both these classes and Dr Clift was concerned that they were being unnecessarily excluded by the existing prerequisites. It is his experience that petroleum engineers cope well with the class and that setting up unnecessary prerequisites to exclude them is counter-productive.

GEOL 4044

- The Committee conditionally approved the proposal to change GEOL 4044 pending an explanation on why the department wishes to drop the original prerequisites and add the new prerequisites, GEOL 3032 or 3200. Why are the present prerequisites not needed anymore? Will the learning outcomes be different now that the prerequisites have changed?

GEOL 4131

- The Committee conditionally approved the proposal to change GEOL 4131 pending an explanation on why GEOL 3200 has been added as a prerequisite option.
Request for CHANGING an Existing Course

Department: Petroleum Engineering
Course Rubric and #: PETE 3036

Present Course Description:
Title: Well Logging

Semester Hours of Credit: 3

If combination course type, # hrs of credit for:
lecture: ___ lab/sem: ___ rec: ___
Repeat Credit Max (if repeatable): ___ X ___
Graduate Credit?: Yes: ___ No: ___

Contact Hours Per Week: (Indicate hours in appropriate course type.)
LEC ___ LAB ___ SEM ___ REC ___ RES/IND ___ CLIN/PRAC ___

Total Weekly Contact Hours: 3
Grading System: Letter Grade ___ X ___ Pass/Fail ___

Course Description:
Prereq.: grade of "C" or better in PETE 2031 and either EE 2950 or PHYS 2102 and credit or registration in CE 2200. Registration in this course is restricted to students admitted to both the College of Engineering and the Petroleum Engineering major. Qualitative and quantitative formation evaluation by means of electric, acoustic and radioactive well logs.

THESE QUESTIONS MUST BE ANSWERED COMPLETELY AND ACCURATELY OR PROPOSAL WILL BE RETURNED.

Has this change been discussed with and approved by all departments/colleges affected? Yes ( ) No ( ) N/A (X)
Is this course included in any curricula, concentrations, or minors? Yes (X) No ( ) If yes, please list on a separate sheet.
Is this course a prerequisite or corequisite for other courses? Yes (X) No ( ) If yes, list courses; use separate sheet.
Is this course on the General Education list? Yes ( ) No (X)

JUSTIFICATION/EXPLANATION: Use separate sheet.

Note: IF COURSE IS OR WILL BE CROSS-LISTED, SEPARATE FORMS MUST BE SUBMITTED BY EACH DEPARTMENT.

APPROVALS:
Department Faculty Approval Date: 09/25/13

College Dean's Approval Date: 9/26/13

Chair, FS C & C Committee: 11/5/13

Academic Affairs Approval: 1/20/13
Justification

This course is a required course in the PETE Curriculum only.

This course is a prerequisite for PETE 3053 and PETE 4088. The course is an elective in the geophysics program.

Primary justification is that PHYS 2102 is no longer being taught necessitating the change to PHYS 2113. The faculty also reevaluated the prerequisite list for all PETE courses to ensure they are appropriate which led the Faculty to remove CE 2200 as a co-requisite course for PETE 3036. Since the course is an elective in the geophysics program, the Faculty added language to allow seniors in the Department of Geology and Geophysics to take the course.
At their October 15th, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following actions regarding the PETE proposals.

PETE 3050 and 3085
- The Committee conditionally approved the proposals to add PETE 3050 and 3085 pending revised syllabi including the learning objectives of the courses, out of class expectations (sample attached), as well as detailed descriptions of the design project.

PETE 3036
- The Committee conditionally approved the proposal to change PETE 3036 pending an explanation of why CE 2200 is being deleted from the prerequisite list.

All other proposals were approved; however, the committee noted that the department would have to submit paperwork to drop PETE 4050 in two years as the justification for the course suggests.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastril@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at rouse@lsu.edu.
# Request for CHANGING an Existing Course

**Department:** Geology and Geophysics  
**Course Rubric and #:** Geol4044  
**College:** Science  
**Date:** April 16 2013

## Present Course Description

**Title:** Petroleum Geology  
**Semester Hours of Credit:** 3

- If combination course type, # hrs of credit for lecture: 
  - Lab/sem: 
  - Rec: 0

- Repeat Credit Max (if repeatable): 

- Graduate Credit?  Yes: X  No: 

**Credit will not be given for this course and:** __________

- Contact Hours Per Week: (Indicate hours in appropriate course type.)
  - Lec: 3
  - Lab: 
  - Sem: 
  - Rec: 
  - Res/Ind: 
  - Clin/Prac: 

- Total Weekly Contact Hours: 3

**Grading System:** Letter Grade X  Pass/Fail

**Course Description:**

Includ course number, title, etc., exactly as it appears in the General Catalog

Geol4044 Petroleum Geology (3)  Prereq.: Geol 2061, 3071, and Math 1550. Modern concepts of the origin, migration, entrapment and production of hydrocarbons from sedimentary basins.

## Proposed Course Description

**Title:** Petroleum Geology  
**Short Title:** PETROLEUM GEOLOGY  
**Semester Hours of Credit:** 3

- If combination course type, # hrs of credit for lecture: 
  - Lab/sem: 
  - Rec: 0

- Repeat Credit Max (if repeatable): 

- Graduate Credit?  Yes: X  No: 

**Credit will not be given for this course and:** __________

- Contact Hours Per Week: (Indicate hours in appropriate course type.)
  - Lec: 3
  - Lab: 
  - Sem: 
  - Rec: 
  - Res/Ind: 
  - Clin/Prac: 

- Total Weekly Contact Hours: 3

**Grading System:** Letter Grade X  Pass/Fail

**Course Description:**

Include course number, title, etc., exactly as it appears in the General Catalog

Geol4044 Petroleum Geology (3)  Prereq.: Geol 3032 or Geo13200 or permission of the instructor. Modern concepts of the origin, migration, entrapment and production of hydrocarbons from sedimentary basins.

**THESE QUESTIONS MUST BE ANSWERED COMPLETELY AND ACCURATELY OR PROPOSAL WILL BE RETURNED.**

- Has this change been discussed with and approved by all departments/colleges affected? Yes (x) No ( ) N/A ( )

- Is this course included in any curricula, concentrations, or minors? Yes ( ) No (x) If yes, please list on a separate sheet.

- Is this course a prerequisite or corequisite for other courses? Yes (x) No ( ) If yes, please list on a separate sheet.

- Is this course on the General Education list? Yes ( ) No (x)

**JUSTIFICATION/EXPLANATION:** Use separate sheet.

**Note:** IF COURSE IS OR WILL BE CROSS-LISTED, SEPARATE FORMS MUST BE SUBMITTED BY EACH DEPARTMENT.

**APPROVALS:**

- **Department Faculty Approval Date:** Aug 21 2013  
  - *Digital signature by Carol M. Wicks*
  - Date: 2013.09.23 17:08:54-05'00"
- **Department Chair's Signature:** 
  - (Date)
- **Graduate Dean's Signature:** 
  - (Date)
- **College Contact:** Kim Kubicek  
  - (Please print name.)
  - College Contact E-mail: kkubicek@ksu.edu

- **College Faculty Approval Date:**  
  - 10/3/13
- **College Dean's Signature:** 
  - (Date)
- **Chair, FS C & C Committee:** 
  - (Date)

**Academic Affairs Approval:**

- **Date:** 4/22/13
I request this change in the requirements for the course in order to allow motivated geology and petroleum engineering students to be admitted in the event that space makes that possible.
Anna M Castrillo

From: Carol Wicks
Sent: Thursday, November 14, 2013 9:16 AM
To: Anna M Castrillo
Subject: RE: GEOL 4044 - GEOL 4131

Anna,

Geol4044 – Petroleum Geology was not taught for a number of years. Dr. Cliff began offering the course this past year (maybe the year before).

The requested changes reflect changes in our understanding of petroleum geology as a subdiscipline of the geosciences. Dr. Cliff teaches Petroleum Geology – there is no better title (or number) for the course. Yes, the content changes as the science unfolds, but the course is still Petroleum Geology. We still emphasis critical thinking and understanding the current state of the science of Petroleum Geology. The course description is still “Modern concepts of the origin, migration, entrapment, and production of hydrocarbons from sedimentary basins”.

The change in prerequisites is aimed to help Petroleum Engineers gain access to the Petroleum Geology course by accepting Geol3200 as a prerequisite instead of having the PETE majors take Geol2061 (which requires a biology course). Geol3071, and Math1550. We are trying to help PETE students gain access to this course. PETE and G&G faculty worked several years ago to design Geol3200 “Earth Materials for Petroleum Engineers” and we have shifted a couple of courses to requiring Geol3032 OR Geol3200 as a means to allow G&G majors (through Geol3032) and PETE majors (through Geol3200) into 4000-level Geol courses. Additionally, the change in prerequisites reflect the “sedimentary basin” side of petroleum geology and the proposed prerequisites are Geol3032 (briefly: Sedimentology) OR Geol3200 (Earth Material of PETE), which covers many sedimentary environments.

The same logic holds for changing the prerequisites for Geol4131.

You may forward my message to Dr. Rouse as I would like to see this moved forward. I hope this helps clarify the situation. I certainly hope that this does not muddy the waters further as that is not my intent.

Thank you for your help.

Carol Wicks

225-578-2692 (office)
225-223-2846 (cell)
Chair and Frank W. and Patricia Harrison Family Professor
Department of Geology and Geophysics
E235 Howe-Russell-Kniffen Geoscience Complex
College of Science
Louisiana State University
Baton Rouge LA 70803

From: Anna M Castrillo
Sent: Thursday, November 14, 2013 8:30 AM
To: Carol Wicks
Subject: RE: GEOL 4044 - GEOL 4131

I believe Dr. Larry Rouse was going to call Dr. Cliff to explain the situation as he did not understand that the committee believed this course to be a new course instead of changing the course. Therefore, unless there was some justification...
explaining that changing the prerequisites and course description was somehow not that different, a new course would have to be created and this one dropped.

I will remind Dr. Rouse to call again. He may have forgotten.

Sincerely,

Anna Castrillo, M.A
Coordinator
Office of the University Registrar
Louisiana State University
112 Thomas Boyd Hall
Phone: (225) 578-4111  
Fax: (225) 578-5991

From: Carol Wicks  
Sent: Wednesday, November 13, 2013 4:30 PM  
To: Anna M Castrillo  
Cc: Kimberly G Kubicek  
Subject: RE: GEOL 4044 - GEOL 4131

Hi, Anna,

It is not clear to me what the resolution of these course approvals are. Can you provide me insight?

Thanks.

Carol Wicks
225-578-2692 (office)  
225-223-2846 (cell)  
Chair and Frank W. and Patricia Harrison Family Professor  
Department of Geology and Geophysics  
E235 Howe-Russell-Kniffen Geoscience Complex  
College of Science  
Louisiana State University  
Baton Rouge LA 70803

From: Anna M Castrillo  
Sent: Thursday, October 31, 2013 9:51 AM  
To: Peter D Clift  
Cc: Carol Wicks  
Subject: RE: GEOL 4044 - GEOL 4131

Dr. Clift,

I spoke with Dr. Larry Rouse, the chair of the C&C Committee, and he believes the change regarding GEOL 4044 is not simply to change the prerequisites. Rather, it sounds like this course is a complete change from what it previously was. This change in content and prerequisites will need to be reflected in two proposals to drop GEOL 4044 and to add a new course in its stead. This is how the committee responds to all proposals that are similar in nature to the new content change in GEOL 4044.
I can supply you with a new course number that has not been used in ten years, GEOL 4046. If you need further options, please let me know.

Sincerely,

Anna Castrillo, M.A
Coordinator
Office of the University Registrar
Louisiana State University
112 Thomas Boyd Hall
Phone: (225) 578-4111
Fax: (225) 578-5991

From: Peter D Clift
Sent: Thursday, October 31, 2013 8:23 AM
To: Lawrence J Rouse; Anna M Castrillo
Cc: Carol Wicks
Subject: GEOL 4044 - GEOL 4131

The changes in the prerequisites for this course reflects the changed character of the course under Dr. Peter Clift who is teaching a different content to what preceded his arrival at LSU. The old prerequisites reflects the old course, none of whose material is being used in either new course. GEOL 3200 was added as a prerequisite in order to facilitate petroleum engineers to take part in this class. There is significant interest within that group in taking both these classes and Dr Clift was concerned that they were being unnecessarily excluded by the existing prerequisites. It is his experience that petroleum engineers cope well with the class and that setting up unnecessary prerequisites to exclude them is counter-productive.

GEOL 4044

- The Committee conditionally approved the proposal to change GEOL 4044 pending an explanation on why the department wishes to drop the original prerequisites and add the new prerequisites, GEOL 3032 or 3200. Why are the present prerequisites not needed anymore? Will the learning outcomes be different now that the prerequisites have changed?

GEOL 4131

- The Committee conditionally approved the proposal to change GEOL 4131 pending an explanation on why GEOL 3200 has been added as a prerequisite option.

=================================

Peter D. Clift
Charles T. McCord Professor of Petroleum Geology.
REQUEST FOR ADDITION OF NEW COURSE

Department: Electrical and Computer Engineering  Date: 9/06/2013
College:    

PROPOSED COURSE. Short Title: CHEM & BIO SENSORS  Rubric & No.: EE 4247
Title: Chemical and Biological Sensors

COURSE CREDIT  Graduate Credit:  X YES  NO

Semester Hours of Credit:  3  (For combination course types only:  Lecture Hrs.  Lab/Sem/Rec Hrs.
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of  credit hours.
Credit will not be given for this course and:

GRADING  Final Exam:  X YES  NO  Grading System:  X Letter Grade  Pass/Fail
(Attach justification if the proposed course will not hold a final exam during examination week.)

COURSE TYPE (Indicate hours in the appropriate course type)

LEC REC  3 LEC  3 LAB  LEC/LAB  SEM  CLIN/CLACT  RESIND

Maximum enrollment per section:  36  (use integer, e.g. 25 not 20-30)

CATALOG TEXT  (Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

4247 Chemical and Biological Sensors (3) Prereq.: CHEM1201 and EE3232, or their equivalents.
Fundamentals of chemical and biological sensors; molecular recognition and transduction principles; fundamentals of
electrochemical sensors, optical and mass-sensitive sensing techniques, and performance factors of chemical and
biological sensors.

BUDGET IMPACT  If this course is approved, will additional staff be needed?  X YES  NO
Will additional space, equipment, special library materials or other major expense be involved?  X YES  NO
(if answer to either question above is "yes" attach explanation.) Academic Affairs Approval:  

ATTACHMENTS  ATTACH THE FOLLOWING TO YOUR PROPOSAL.
JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other
courses?

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS  Department Faculty Approval  9/06/2013  College Faculty Approval  9/19/2013

P. K. Anand  9/13/2013
Department Chair's Signature  (date)

B.  10-7-13
Chair, FS C&C Committee  (date)

Academic Affairs Approval  (date)
Proposal for Converting a Special Topic Course to a Catalog Course

EE4247 Chemical and Biological Sensors

Catalog Description: EE 4247 Chemical and Biological Sensors (3) Prereq. CHEM1201 and EE3232, or their equivalents. 3 hrs lecture. Fundamentals of chemical and biological sensors; molecular recognition and transduction principles; fundamentals of electrochemical sensors, optical and mass-sensitive sensing techniques, and performance factors of chemical and biological sensors.

Course Objectives: This course is designed to introduce fundamentals of chemical and biological sensors to senior/graduate students in Electrical Engineering and other related engineering disciplines. Basic concepts of chemical and biological sensing methods, Clark cell, and ion-selective field effect transistors (IS-FET) will be introduced. Students will learn the basic sensing principles and elements followed by various application-oriented examples such as gas sensing, glucose monitoring, toxicity detection, disease detection, and DNA detection. Recent developments in miniaturized biosensors will also be covered.

Textbook:
- Class notes and handouts.

References:

Topics:
- Introduction and overview of transduction mechanism (3 hours)
- Basics of biomolecules (3 hours)
- Fundamentals of electrochemical cell (4 hours)
- Recognition element and molecular immobilization (5 hours)
- Performance factors and sensor signal amplification (7 hours)
- Electrochemical detection and semiconductor-based sensors (6 hours)
- Optical detection (6 hours)
- Mechanical detection (4 hours)
- Emerging biosensors and nanobiotechnology (3 hours)
- Test (1 hour)
- 42 hours in total (Detailed 42 lecture schedule is on the next page.)

Out of Class Work Requirement:
- Each 50-minute lecture will require a minimum of two hours of academic work such as reading assignments, homework assignments, term paper, etc.

Grading:
- Midterm (30%); Final Exam (30%); Term Paper (25%); Homework Assignments (15%)
- Total 100 points: A ≥ 90; 90 ≥ B ≥ 80; 80 ≥ C ≥ 70; 70 ≥ D ≥ 60; 60 ≥ F

Justification: Chemical and biological sensors and signal transduction fall into the scope of Electrical Engineering, yet the Division of Electrical and Computer Engineering do not offer a
relevant course on this topic. In addition, although the ECE curriculum revised its course requirements for freshmen and sophomore level undergraduate students by adding Life Science Electives as a core requirement from 2006-2007 academic year, no relevant courses are available in the ECE curriculum. This course will provide students an opportunity to couple electrical engineering with life sciences. This course has been taught three times and the enrollment has increased significantly (9 in Spring 2007, 11 in Spring 2010, and 22 in Spring 2011), which shows students' growing interest in chemical and biological sensor technologies. The course will provide students an opportunity to learn and explore a real world application of engineering topics.

**Lecture Schedule:**

<table>
<thead>
<tr>
<th>Lecture Topics</th>
<th>Lecture Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction to sensors</td>
<td>1</td>
</tr>
<tr>
<td>Definition of sensors, recognition elements, and transducers</td>
<td>1</td>
</tr>
<tr>
<td>Aspects of sensors</td>
<td>1</td>
</tr>
<tr>
<td>Basics of biomolecules</td>
<td>3</td>
</tr>
<tr>
<td>Electrochemical transduction</td>
<td>1</td>
</tr>
<tr>
<td>Nernst equation</td>
<td>1</td>
</tr>
<tr>
<td>Potentiometry and ion selective electrodes</td>
<td>1</td>
</tr>
<tr>
<td>Voltametry and amperometry techniques</td>
<td>1</td>
</tr>
<tr>
<td>Ion recognition and ion selective electrodes</td>
<td>1</td>
</tr>
<tr>
<td>Molecular recognition (Chemical)</td>
<td>1</td>
</tr>
<tr>
<td>Molecular recognition (Spectroscopic)</td>
<td>1</td>
</tr>
<tr>
<td>Molecular recognition (Biological)</td>
<td>1</td>
</tr>
<tr>
<td>Biomolecular immobilization</td>
<td>1</td>
</tr>
<tr>
<td>Definition of performance factors</td>
<td>1</td>
</tr>
<tr>
<td>Selectivity of sensors</td>
<td>1</td>
</tr>
<tr>
<td>Sensitivity of sensors</td>
<td>1</td>
</tr>
<tr>
<td>Time factors</td>
<td>1</td>
</tr>
<tr>
<td>Precision, accuracy, and repeatability</td>
<td>1</td>
</tr>
<tr>
<td>Performance of sensors, sensor signal amplification and processing</td>
<td>2</td>
</tr>
<tr>
<td>Electrochemical sensing techniques</td>
<td>1</td>
</tr>
<tr>
<td>Electrochemical transducers</td>
<td>2</td>
</tr>
<tr>
<td>Chemiresistors</td>
<td>1</td>
</tr>
<tr>
<td>Chemically sensitive field effect transistors (CHEMFETs)</td>
<td>1</td>
</tr>
<tr>
<td>Ion selective field effect transistors (ISFETs)</td>
<td>1</td>
</tr>
<tr>
<td>Optical sensing techniques</td>
<td>1</td>
</tr>
<tr>
<td>Visible absorption spectroscopy</td>
<td>1</td>
</tr>
<tr>
<td>Reflectance spectroscopy</td>
<td>1</td>
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<tr>
<td>Surface plasmon resonance</td>
<td>1</td>
</tr>
<tr>
<td>Light scattering techniques</td>
<td>1</td>
</tr>
<tr>
<td>Fluorescent and chemiluminescent sensing</td>
<td>1</td>
</tr>
<tr>
<td>Mechanical and thermal sensing techniques</td>
<td>1</td>
</tr>
<tr>
<td>Piezoelectric effect and quartz crystal microbalance</td>
<td>1</td>
</tr>
<tr>
<td>Surface acoustic waves</td>
<td>1</td>
</tr>
<tr>
<td>Thermal sensing</td>
<td>1</td>
</tr>
<tr>
<td>Emerging biosensors and nanobiotechnology</td>
<td>2</td>
</tr>
<tr>
<td>Future outlook</td>
<td>1</td>
</tr>
<tr>
<td>Exam</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
</tr>
</tbody>
</table>
### Relationship of the Course to ABET Outcomes:

<table>
<thead>
<tr>
<th>Expected student outcomes (SO)</th>
<th>How to achieve student outcomes?</th>
</tr>
</thead>
<tbody>
<tr>
<td>An ability to apply knowledge of mathematics, science, and engineering (ABET Criterion 3(a))</td>
<td>Students will use scientific principles to understand various sensing techniques and use governing equations to obtain solutions for sensor models.</td>
</tr>
<tr>
<td>An ability to identify, formulate, and solve engineering problems (ABET Criterion 3(e))</td>
<td>The course provides a basic understanding of different sensing techniques and their applications so that students are prepared for engineering practice in chemical and biological sensors.</td>
</tr>
<tr>
<td>A recognition for the need for and adequate preparation for continued professional growth and life-long learning (ABET Criterion 3(i))</td>
<td>Students are introduced to issues related to sensing principles, performance factors, material issues, and transduction techniques, which requires continuous and ongoing learning.</td>
</tr>
<tr>
<td>A knowledge of contemporary issues, especially engineering issues (ABET Criterion 3(jj))</td>
<td>Students will learn multidisciplinary and contemporary topics on chemical and biological sensor technologies and relevant issues.</td>
</tr>
<tr>
<td>An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice (ABET Criterion 3(k))</td>
<td>Students will apply standard techniques for analyzing sensor performances and transduction mechanisms of various kinds.</td>
</tr>
</tbody>
</table>

Prepared by Jin-Woo Choi, April 15, 2013 (Last revised on October 7, 2013)
**Justification:** Chemical and biological sensors and signal transduction fall into the scope of Electrical Engineering, yet the Division of Electrical and Computer Engineering do not offer a relevant course on this topic. In addition, although the ECE curriculum revised its course requirements for freshmen and sophomore level undergraduate students by adding Life Science Electives as a core requirement from 2006-2007 academic year, no relevant courses are available in the ECE curriculum. This course will provide students an opportunity to couple electrical engineering with life sciences. This course has been taught three times and the enrollment has increased significantly (9 in Spring 2007, 11 in Spring 2010, and 22 in Spring 2011), which shows students' growing interest in chemical and biological sensor technologies. The course will provide students an opportunity to learn and explore a real world application of engineering topics.

This packet was shared with Biological and Chemical Engineering faculty representatives. Both departments endorse this course.

**Credit hours justification:**
This course meets the new credit hour policy where every lecture hour in the class should match with at least 2 hours of related academic work at home. This is being met with HWs, practice problems, textbook chapter reading prior to class, and design related efforts.
Anna, here is the letter of support from Chemistry for EE 4247 that the committee requested.

John Scalzo  
Instructor, Undergraduate Advisor  
Division of Electrical and Computer Engineering  
School of Electrical Engineering and Computer Science  
3172 Patrick F. Taylor Hall  
http://www.ece.lsu.edu/scalzo/index.html  
jscalzo@lsu.edu  
225-578-5478  
BSEE, Virginia Tech, 1992  
MSEE, Georgia Tech, 1993

Hi John,

Please find the forwarded email message from Dr. Marzilli, the Chair of the Chemistry Department. The message says there is no overlap to any Chemistry course.

Will this be enough for the purpose?

Jin

--
Jin-Woo Choi, PhD  
Associate Professor  
School of Electrical Engineering and Computer Science  
Louisiana State University  
Phone: (225) 578-8764, Email: choijw@lsu.edu  
http://www.ece.lsu.edu/biomems/
Subject: Re: Support on a new course in Electrical Engineering (EE4247 Chem. Bio. Sensors)
To: Jin-Woo Choi <choijw@lsu.edu>

Please use this email response for your purposes.
There is essentially no overlap of your course with any Chemistry course.
It is possible that some Chemistry students might wish to take your course.
My colleagues closest to this area tell me it looks like a good course.

Good luck with the approval.

Luigi G. Marzilli, William White Tison Professor and Chair,
Dept. of Chemistry, LSU, Baton Rouge, LA, 70803  lmarzil@lsu.edu
Phone 225 578 3465, FAX 225 578 3463 http://chemistry.lsu.edu/marzilli

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If you have received this message in error, please contact the sender by reply e-mail message and destroy all copies of the original message (including attachments).

From: Jin-Woo Choi <choijw@lsu.edu>
Date: Wednesday, October 30, 2013 1:46 PM
To: luigi <lmarzil@lsu.edu>
Subject: Support on a new course in Electrical Engineering (EE4247 Chem. Bio. Sensors)

Dear Dr. Marzilli,

The Division of Electrical and Computer Engineering proposes a new course, EE4247 Chemical and Biological Sensors, which has gone through the university committee. The committee has approved but requested a support letter from the Department of Chemistry:

"The Committee approved the proposal to add EE 4247 but requested a letter of support from the Chemistry department as the course has material similar to topics taught in the Chemistry department."

I was wondering if you could review and comment on the attached course syllabus or pass along this message to someone who is in charge of undergraduate curriculum.

Should you have any questions or need additional information on the course, please feel free to contact me.
Thank you for your attention and I look forward to hearing from you.

Sincerely,

Jin

--

Jin-Woo Choi, PhD
Associate Professor
School of Electrical Engineering and Computer Science
Louisiana State University
Phone: (225) 578-8764, Email: choijw@lsu.edu
http://www.ece.lsu.edu/biomems/
REQUEST FOR ADDITION OF NEW COURSE

Department: Construction Management  
College: Engineering  
Date: 8/27/12

PROPOSED COURSE

Short Title: Highway Construction  
Rubric & No.: CM 3165

COURSE CREDIT

Graduate Credit: YES X NO  
Semester Hours of Credit: 3  
If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.

Credit will not be given for this course and:

GRADING

Final Exam: YES X NO  
Grading System: X Letter Grade Pass/Fail

COURSE TYPE

Check one type: X LEC  
Maximum enrollment per section: 40

Total weekly contact hours: ___  
(For "Lecture/Lab" type courses only. Lecture Hrs. ___ Lab Hrs.)

CATALOG TEXT

(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)

3165 Highway Construction (3). Prerequisites: CM 2103, CM 2105, and CM 3111. Basic fundamentals of highway construction including; earthmoving, drainage, road paving, bridge and retaining walls; interpretation of plans and specifications; materials, equipment and estimating.

BUDGET IMPACT

If this course is approved, will additional staff be needed? ___ YES X NO

Will additional space, equipment, special library materials or other major expense be involved? ___ YES X NO

ATTACHMENTS

ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed. Will the course duplicate other courses? Yes, see justification

SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria.  
(For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS

Department Faculty Approval 03/08/13  
College Faculty Approval 09/26/13

Department Chair's Signature 07/12/13  
College Dean's Signature 09/27/13

Graduate Dean's Signature (for 4000 level and above) 09/30/13  
Chair, FS C&C Committee 10/31/13

Academic Affairs Approval 09/30/13
CM 3165
HIGHWAY CONSTRUCTION

TERM : Fall 2013
CLASS TIME & LOCATION : 1:00 - 2:20 PM
101 Construction Management Building

FACULTY : L. Leslie Rosso, Ph.D.
Associate Professor (Retired)
106 Construction Management Building
225-578-3805
llrosso@lsu.edu

OFFICE HOURS :

CATALOG COURSE DESCRIPTION : 3165 Highway Construction (3). Prerequisites: CM 2103, CM 2105, and CM 3111. Basic fundamentals of highway construction including: earthmoving, drainage, road paving, bridge and retaining walls; interpretation of plans and specifications; materials, equipment and estimating.

COURSE OBJECTIVES & OUTCOMES : Upon completion of this course, the students will be able to:
1. Calculate horizontal and vertical highway alignment.
2. Prepare a mass diagram to determine earthmoving operations and equipment selection.
3. Identify the common components of a drainage system.
4. Describe the materials, methods, and equipment used in automated road building.
5. Identify reinforcing steel nomenclature, components, and practices used in bridge and retaining wall construction.
6. Estimate the common materials used in highway construction.
7. Acquire an interest for highway construction.

GRADE POLICY : Midterm Exam 50%
Final Exam 50%
Total 100%
Extra Credit +8%

GRADE SCALE :
A \geq 90
B 80 - 89.9999
C 70 - 79.9999
D 60 - 69.9999
F \leq 59.9999

COURSE MATERIALS AND RESOURCES : Calculator with trig functions and/or CM Pro Calculator (model 4060 or 4065); *Course Packet and Sample Plans.
*Includes engineering paper.

NOTE: All of the above materials are at Co Op Bookstore, 3960 Burbank Dr.

OUT OF CLASS EXPECTATION: It is expected that the students have read the assigned chapters or pages prior to class for the background necessary to properly participate in the discussion and think critically about the concepts addressed. As a general policy, for each hour you are in class, you (the student) should plan to spend at least two hours preparing for the next class. Since this course is for three credit hours, you should expect to spend around six hours outside of class each week reading or writing assignments for the class.
Department/Course Policies:

1. No make-up exams (excuses for such are defined by the university regulations).
2. Students are expected to attend all classes. If absence is necessary, notify the instructor before the fact, if possible. Absences will only be excused when meeting the requirements of University Policy Statement 22.
3. In-class participation, asking questions, and completing extra credit assignments are encouraged.
4. Academic dishonesty will be dealt with according to university regulations and policy. It is each student's responsibility to understand these regulations.
5. No eating, drinking, tobacco products, gum, magazines, or newspapers are allowed in CM classrooms.
6. Turn cell phones off, or place on the silent mode.
7. Campus-based and/or web-based library usage is required.

Classroom Civility

Students are expected to assist in maintaining a classroom environment that is conducive to learning. To create an environment in which learning is the primary objective, students are asked to refrain from disruptive behaviors, tardiness, leaving early, sleeping, prolonged visiting with other students, and making inappropriate or offensive remarks. This is not a comprehensive list – in general, treat the instructor and other class members with respect.

Office of Disability Services

If you have a disability that may have some impact on your work in this class and for which you may require accommodations, then see a staff member in the Office of Disability Services (112 Johnston Hall) so that such accommodations can be considered. Students that receive accommodation letters and require additional time on exams must make arrangements with me at least THREE (3) days prior to any exam where accommodation is requested.

Class Contacts:

Members of your class are valuable resources for notes, assignments, announcements, etc. that are needed in the case that you are absent from class. Record the names, phone numbers, and email addresses of some of the class members that are willing to share that information with you.

<table>
<thead>
<tr>
<th>Student Contact</th>
<th>Phone Number</th>
<th>E-Mail Address</th>
</tr>
</thead>
</table>

CM 3165 COURSE OUTLINE

<table>
<thead>
<tr>
<th>CLASS NUMBER</th>
<th>DATE</th>
<th>TOPIC</th>
<th>ACCE TOPICAL CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8/26</td>
<td>Introduction – Syllabus &amp; Course Overview</td>
<td>4.21, 4.32, 4.51</td>
</tr>
<tr>
<td>2</td>
<td>8/28</td>
<td>Horizontal Alignment – Sample Plans &amp; Course Packet Orientation; Orientation to Plan/Profile Sheets; Plan Reading; Survey Line; Stations</td>
<td>4.21, 4.32, 4.42, 4.44, 4.51</td>
</tr>
<tr>
<td>3</td>
<td>9/4</td>
<td>Horizontal Alignment – Stations: Station-Offsets; Bearings</td>
<td>4.21, 4.51, 4.52</td>
</tr>
<tr>
<td>4</td>
<td>9/9</td>
<td>Horizontal Alignment – Bearings &amp; Simple Curve Calculations; Reference Points</td>
<td>4.21, 4.32, 4.51, 4.52</td>
</tr>
<tr>
<td>5</td>
<td>9/11</td>
<td>Vertical Alignment – Orientation to Profile; Plan Reading: Elevations; %</td>
<td>4.21, 4.51, 4.52</td>
</tr>
<tr>
<td>No.</td>
<td>Date</td>
<td>Grades</td>
<td>Subjects</td>
</tr>
<tr>
<td>-----</td>
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</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td>Study of Section 4.1</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td>Study of Section 4.2</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>Study of Section 4.3</td>
</tr>
<tr>
<td>4</td>
<td></td>
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<td>Study of Section 4.4</td>
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<td>5</td>
<td></td>
<td></td>
<td>Study of Section 4.5</td>
</tr>
<tr>
<td>6</td>
<td>9/16</td>
<td></td>
<td>Vertical Alignment - 7% Grade Calculations; Slope &amp; Ft/Ft. Calculations</td>
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<tr>
<td>7</td>
<td>9/18</td>
<td></td>
<td>Vertical Curve Calculations; Types of Vertical Curves; Benchmarks</td>
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<tr>
<td>8</td>
<td>9/23</td>
<td></td>
<td>Typical Sections - Plan Reading; Normal Vs. Super Elevated Sections; Cross Slopes; Sub-grade Elevations; Super Elevation Transition Diagrams</td>
</tr>
<tr>
<td>9</td>
<td>9/25</td>
<td></td>
<td>Earthwork - Plan Reading; Cross Sections; Excavation &amp; Embankment Quantities; Adjusted Embankment Calculations; Mass Diagram; Earthmoving Operations; Equipment Selection</td>
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<tr>
<td>10</td>
<td>9/30</td>
<td></td>
<td>Earthwork - Earthmoving Operations Calculations; Mass Diagram Table &amp; Graph Calculations; Economical Limit of Haul</td>
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<tr>
<td>11</td>
<td>10/2</td>
<td></td>
<td>Earthwork - Mass Diagram Table &amp; Graph Calculations; Economical Limit of Haul Calculations</td>
</tr>
<tr>
<td>12</td>
<td>10/7</td>
<td></td>
<td>Drainage - Plan Reading; Symbols; Orientation to Plan/Profile Drainage Sheets; Catch Basin, Manhole, &amp; Pipe Call-outs; Mainline Vs. Lateral Lines</td>
</tr>
<tr>
<td>13</td>
<td>10/9</td>
<td></td>
<td>Catch Basin &amp; Manhole Quantity Take-Off Procedure; Trenching, Backfill, Top of Grade Calculations; Concrete &amp; Re-Steel Quantities</td>
</tr>
<tr>
<td>14</td>
<td>10/14</td>
<td>MIDTERM EXAM</td>
<td>4.21, 4.32, 4.33, 4.36, 4.38, 4.42, 4.44, 4.51, 4.52, 5.12, 5.13, 5.14</td>
</tr>
<tr>
<td>15</td>
<td>10/16</td>
<td>Video on Slip Form Paving</td>
<td>4.38</td>
</tr>
<tr>
<td>16</td>
<td>10/21</td>
<td>Road Construction - Sub-base Lime Treatment; Spread Rate</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42</td>
</tr>
<tr>
<td>17</td>
<td>10/23</td>
<td>Road Construction - Base Course; Geotextile Fabric; Limestone; Aggregates; Soil-Cement; Spread Rates</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42, 4.44</td>
</tr>
<tr>
<td>18</td>
<td>10/28</td>
<td>Road Construction - Pavement; P.C. Concrete; Joints; Curbs; Turnouts &amp; Geometry</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42, 4.44</td>
</tr>
<tr>
<td>19</td>
<td>10/30</td>
<td>Road Construction - Production Rates; Office Vs. Field Rates; Placement Rates; Quantity Take-Off &amp; Durations</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42, 4.44, 5.12, 5.13, 5.14</td>
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<tr>
<td>20</td>
<td>11/4</td>
<td>Road Construction - Asphalt Paving</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42, 4.44</td>
</tr>
<tr>
<td>21</td>
<td>11/6</td>
<td>Retaining Wall Construction - Introduction; Plan Reading; Nomenclature</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42, 4.44</td>
</tr>
<tr>
<td>22</td>
<td>11/11</td>
<td>Retaining Wall Construction - Quantity Take-Off; Re-Steel and Re-Steel Voids; Concrete; P.P.C. Piles</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42, 4.44, 5.12, 5.13, 5.14</td>
</tr>
<tr>
<td>23</td>
<td>11/13</td>
<td>Retaining Wall Construction - Miscellaneous Re-Steel Information; Pin Diameter; Grade; Standard Lengths; Lap Splices</td>
<td>4.32, 4.33, 4.36, 4.42, 4.44, 4.44</td>
</tr>
<tr>
<td>24</td>
<td>11/18</td>
<td>Retaining Wall Construction - Miscellaneous Pile Information; Pick-Up Points; Weights; Battered Piles; Top</td>
<td>4.32, 4.33, 4.36, 4.38, 4.42, 4.44, 4.44, 4.44, 4.44, 4.44</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>25</td>
<td>11/20</td>
<td>&amp; Tip Elevation Calculations</td>
<td>4.32, 4.33, 4.42</td>
</tr>
<tr>
<td>26</td>
<td>11/25</td>
<td>Bridge Construction – Orientation and Plan Reading; General Plan &amp; Elevation Sheet</td>
<td>4.32, 4.33, 4.42</td>
</tr>
<tr>
<td>27</td>
<td>12/2</td>
<td>Bridge Construction – Bents; Spans; Approach Slabs</td>
<td>4.32, 4.33, 4.42</td>
</tr>
<tr>
<td>28</td>
<td>12/4</td>
<td>Bridge Construction – Quantity Take-Off and Pricing</td>
<td>4.32, 4.33, 4.42, 5.12, 5.13, 5.14</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bridge Construction – Quantity Take-Off and Pricing</td>
<td>4.32, 4.33, 4.42</td>
</tr>
</tbody>
</table>

**FINAL EXAM:** Wednesday, December 11, 3:00 – 5:00 PM, 101 Construction Management Building

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**Justification CM 3165**

CM 3165 replaces the existing course CM 3141. It will become an elective course in the new Construction Management Curriculum in the highway construction emphasis area. It was necessary to change the prerequisites to align with the new courses and numbering system using 3165. CM 3141 will be dropped using Form B in March 2014.

**EXTRA CREDIT ASSIGNMENTS JUSTIFICATION & EXPLANATION:**

The eight extra credit assignments are optional. Students may elect to do none or all of them. They are added to the student’s final summation and then the final grade is assigned based on the 10 point scale. Thus there could be a maximum of 108 points in the course. The extra credit assignments are due on the following class of the date assigned. There’s no late or make-up work. They are: 1) Horizontal Alignment Calculations; 2) Vertical Alignment Calculations; 3) Earthwork Calculations; 4) Catch Basin Quantity take-off; 5) DOTD Website Assignment on Unit Prices; 6) DOTD Website Assignment on Standard Specifications; 7) Retaining Wall Quantity Take-off; 8) Bridge Quantity Take-off.
REQUEST FOR ADDITION OF NEW COURSE

Department: Petroleum Engineering Date: 09/04/13
College: Engineering

PROPOSED COURSE
Rubric & No.: PETE 3050 Title: Reservoir Dynamics

<table>
<thead>
<tr>
<th>COURSE CREDIT</th>
<th>Graduate Credit:</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester Hours of Credit:</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(For combination course types only :</td>
<td>Lecture Hrs.</td>
<td>Lab/Sem/Rec Hrs.</td>
<td></td>
</tr>
<tr>
<td>If course may be repeated for credit (i.e. special topics), course may be taken for a max. of</td>
<td>credit hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credit will not be given for this course and:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GRADING</th>
<th>Final Exam:</th>
<th>YES</th>
<th>NO</th>
<th>Grading System:</th>
<th>Letter Grade</th>
<th>Pass/Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Attach justification if the proposed course will not hold a final exam during examination week.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COURSE TYPE</th>
<th>(Indicate hours in the appropriate course type)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/0</td>
<td>LEC/REC</td>
</tr>
<tr>
<td>Maximum enrollment per section:</td>
<td>180 (use integer, e.g. 25 not 20-30)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CATALOG TEXT</th>
<th>(Concise catalog statement exactly as you wish it to appear in the LSU General Catalog)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prereq.: PETE 2031, PETE 2032, MATH 2065, CE 2200 and credit or registration in ME 3333.</td>
<td></td>
</tr>
<tr>
<td>Registration in this course is restricted to students admitted to both the College of Engineering and the Petroleum Engineering major. Fundamentals of reservoir flow; application to single-well performance; well testing; gas reservoir engineering; waterflooding fundamentals.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUDGET IMPACT</th>
<th>If this course is approved, will additional staff be needed?</th>
<th>YES</th>
<th>X</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Will additional space, equipment, special library materials or other major expense be involved?</td>
<td>YES</td>
<td>X</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td>(If answer to either question above is &quot;yes&quot; attach explanation.)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Academic Affairs Approval:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ATTACHMENTS</th>
<th>ATTACH THE FOLLOWING TO YOUR PROPOSAL.</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?</td>
<td></td>
</tr>
<tr>
<td>SYLLABUS: Including 14 week outline of the subject matter; titles of text, lab manual, and/or required readings; grading scale and criteria (For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>APPROVALS</th>
<th>Department Faculty Approval</th>
<th>09/25/13</th>
<th>(date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department Chair's Signature</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>09/25/13</td>
<td>(date)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Contact:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| | Graduate Dean's Signature (for 4000 level and above) | (date) |
| | College Contact E-mail: |

| | College Faculty Approval | 9/26/13 | (date) |
| | Academic Affairs Approval | (date) |
| | Chair, FS C&C Committee | (date) |
Justification

Since Spring semester 2005, PETE 4050 – Reservoir Dynamics has been a course that is located in the Spring semester of the Junior year in the curriculum. Prior to Spring 2005 the course was PETE 4052 – Testing of Oil and Gas Wells and occupied a Spring semester of the senior year slot in the curriculum. The course maintained a 4000-level designation in order to also make it available for graduate credit as a well testing course is typically available for graduate credit in other Petroleum Engineering departments around the nation. The Faculty is adding a Production Engineering course that fits best in the second semester of the Junior year but would leverage the content in Reservoir Dynamics necessitating an additional shift of the course to the Fall semester. This was judged by the Faculty to be a shift that warranted an additional change of designation as a 3000-level course. The content will largely be unchanged as the prerequisite courses for PETE 3050 are either unchanged (PETE 2032, MATH 2065) or were changed to a corequisite (ME 3333) since the content in ME 3333 required by PETE 3050 occurs late in the course. One additional prerequisite was added (PETE 2031) to ensure that students could not bypass the fundamental rock properties course to take PETE 3050 out of sequence.
Syllabus

Title: PETE 3050 Reservoir Dynamics (Prereq: PETE 2031, PETE 2032, MATH 2065; CE 2200; credit or registration in ME 3333)

Instructor: TBD

Course Objectives:

Ensure students understand the basic flow-conservation equations and their application for prediction and analysis.

Text or Reference Material:

Course Notes by White or Fundamentals of Reservoir Engineering, (1978) by Dake

Exams and Homeworks:

Two 1-hour test (2 × 20% = 40%)
One 2-hour final exam (30%)
Homework problems, in-class work and quizzes (30%)

Grading Scale:

Grade scale

<table>
<thead>
<tr>
<th>Grade</th>
<th>Score Range</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>x ≥ 90</td>
</tr>
<tr>
<td>B</td>
<td>80 ≤ x &lt; 90</td>
</tr>
<tr>
<td>C</td>
<td>70 ≤ x &lt; 80</td>
</tr>
<tr>
<td>D</td>
<td>60 ≤ x &lt; 70</td>
</tr>
<tr>
<td>F</td>
<td>x &lt; 60</td>
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</table>

Tentative Lecture Schedule

<table>
<thead>
<tr>
<th>Week Number</th>
<th>Tentative Lecture Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Introduction, Darcy's Law</td>
</tr>
<tr>
<td>Week 2</td>
<td>Permeability</td>
</tr>
<tr>
<td>Week 3</td>
<td>Flow Geometry</td>
</tr>
<tr>
<td>Week 4</td>
<td>Parallel and series flow; skin</td>
</tr>
<tr>
<td>Week 5</td>
<td>Productivity index and flow efficiency; Exam 1</td>
</tr>
<tr>
<td>Week 6</td>
<td>Steady-state compressible flow</td>
</tr>
<tr>
<td>Week 7</td>
<td>Flow potential</td>
</tr>
<tr>
<td>Week 8</td>
<td>The diffusivity equation</td>
</tr>
<tr>
<td>Week 9</td>
<td>Pseudo-steady flow; Exam 2</td>
</tr>
<tr>
<td>Week 10</td>
<td>Inflow performance relationships; Nodal Analysis</td>
</tr>
<tr>
<td>Week 11</td>
<td>Decline curves</td>
</tr>
<tr>
<td>Week 12</td>
<td>Well testing Introduction; Line source solution</td>
</tr>
<tr>
<td>Week 13</td>
<td>Single rate tests; multirate tests and diagnostic plots</td>
</tr>
<tr>
<td>Week 14</td>
<td>Waterflooding introduction</td>
</tr>
<tr>
<td>Week 15</td>
<td>FINAL EXAM</td>
</tr>
</tbody>
</table>

It is expected that the students have read the assigned chapters or pages prior to class for the background necessary to properly participate in the discussion and think critically about the concepts addressed. As a general policy, for each hour you are in class, you (the student) should plan to spend at least two hours preparing for the next class. Since this course is for three credit hours, you should expect to spend around six hours outside of class each week reading or writing assignments for the class.
Ms Castrillo,

Attached you will find the documents requested from Dr. Thompson.

Some comments or notes:

- Rather than providing a "detailed description of the design project" from PETE 3050 and PETE 3085 I have removed them from the course. The design projects were left over from another course description used by a current Faculty member and should not have been left in the description for either course. Whether a Faculty member chooses to utilize a design project or not is left up to the discretion of the course instructor and we have not selected an instructor for these courses. We also do not anticipate teaching these courses any time within the next two years so any design project described now would likely be irrelevant that far down the road. The rest of these syllabi include the requested information (objectives and out of class expectations).

- PETE 3036 – I am not entirely sure what the issue was with the decision to drop CE 2200 as a prerequisite to PETE 3036, but I added a sentence to simply say it was dropped after review. If that is not sufficient then please let me know.

- We understand the issue with PETE 4050 – we are currently working on a plan for our graduate students since the switch to PETE 3050 will impact graduate students and may necessitate transitioning to a course similar to PETE 4050 for them. Again, we will drop the course in due time and we are only hesitating to make sure we can accommodate our graduate student population as best we can.

Please let us know if you need anything else on this matter.

RGH

Dr. Richard Hughes
Louisiana State University
Craft & Hawkins Department of Petroleum Engineering
P.F. Taylor Hall Room 2107
Baton Rouge, LA 70803
(225) 578-6038 (225) 578-6039 (fax)
From: Lawrence Rouse, Chair, Courses and Curricula Committee

At their October 15th, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following actions regarding the PETE proposals.

**PETE 3050 and 3085**
- The Committee conditionally approved the proposals to add PETE 3050 and 3085 pending revised syllabi including the learning objectives of the courses, out of class expectations (sample attached), as well as detailed descriptions of the design project.

**PETE 3036**
- The Committee conditionally approved the proposal to change PETE 3036 pending an explanation of why CE 2200 is being deleted from the prerequisite list.

All other proposals were approved; however, the committee noted that the department would have to submit paperwork to drop PETE 4050 in two years as the justification for the course suggests.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastr1@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.
REQUEST FOR ADDITION OF NEW COURSE

Department: Petroleum Engineering Date: 09/04/13
College: Engineering

PROPOSED COURSE
Rubric & No.: PETE 3085 Title: Well Performance and Production
Short Title: PRODUCTION

COURSE CREDIT
Graduate Credit: YES X NO
Semester Hours of Credit: 3

If course may be repeated for credit (i.e. special topics), course may be taken for a max. of ___ credit hours.
Credit will not be given for this course and:

GRADING
Final Exam: X YES ___ NO Grading System: X Letter Grade ___ Pass/Fail

CATALOG TEXT
Prereq.: PETE 3050. Registration in this course is restricted to students admitted to both the College of Engineering and the Petroleum Engineering major. Systems analysis applied to oil and gas wells; artificial lift design; fluid measurement; design of surface production equipment.

BUDGET IMPACT
If this course is approved, will additional staff be needed? ___ YES X NO
Will additional space, equipment, special library materials or other major expense be involved? ___ YES X NO

ATTACHMENTS
ATTACH THE FOLLOWING TO YOUR PROPOSAL.

JUSTIFICATION: Justification must explain why this course is needed and how it fits into the curricula. Will the course duplicate other courses?

SYLLABUS: Including 14 week outline of the subject matter, titles of text, lab manual, and/or required readings, grading scale and criteria (For 4000-level, specify graduate student grading criteria if requirements differ for graduate and undergraduate students).

APPROVALS
Department Faculty Approval 09/25/13
College Faculty Approval 09/26/13
College Dean’s Signature 11/5/13
Chair, FS C&C Committee
Academic Affairs Approval
Justification

For many years the Faculty in the Craft and Hawkins Department of Petroleum Engineering has acknowledged a gap exists in the LSU Petroleum Engineering curriculum that Petroleum Engineering departments elsewhere had which was a dedicated production engineering course that was at least partially focused on production facilities design. Such a course was a "Design Elective" in the LSU curriculum and taught on a somewhat sporadic rotational basis. During the last several ABET visitor meetings, no direct recommendations have been made to fill this gap. However, questions from the ABET visitors indicate that the gap is noticeable. The Faculty is proposing a new course, PETE 3085 – Well Performance and Production. This new course will be required by all students under this catalog. This proposed course will also fill a need for a design course a semester earlier than presently in the curriculum which has been a recommendation by the Petroleum Engineering Advisory Board on several occasions.
Syllabus

Title: PETE 3085 Well Performance and Production (Prereq: PETE 3050 or consent of instructor.)

Instructor: TBD

Course Objectives: Ensure students understand the basic principles of well performance evaluation, pipe flow performance, production facilities design and artificial lift design and evaluation.

Text or Reference Material:


Supplemental Reading (Few chapters and assigned problems only):


Exams and Homeworks:

Two 1-hour tests (2 x 20% = 40%)
One 2-hour final exam (30%)
Homework problems, in-class work and quizzes (30%)

Grading Scale:

A ≥ 90 > B ≥ 80 > C ≥ 70 > D ≥ 60 > F

Tentative Lecture Schedule

<table>
<thead>
<tr>
<th>Week Number</th>
<th>Tentative Lecture Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>Darcy law inflow performance; gas well inflow performance</td>
</tr>
<tr>
<td>Week 2</td>
<td>Oil well inflow performance</td>
</tr>
<tr>
<td>Week 3</td>
<td>Multiphase inflow performance; completion performance</td>
</tr>
<tr>
<td>Week 4</td>
<td>Single phase liquid flow in pipes;</td>
</tr>
<tr>
<td>Week 5</td>
<td>Single phase gas flow in pipes; Exam 1</td>
</tr>
<tr>
<td>Week 6</td>
<td>Multiphase flow in pipes</td>
</tr>
<tr>
<td>Week 7</td>
<td>Multiphase flow in pipes</td>
</tr>
<tr>
<td>Week 8</td>
<td>Multiphase flow in pipes</td>
</tr>
<tr>
<td>Week 9</td>
<td>Chokes, restrictions and subsurface safety systems; Exam 2</td>
</tr>
<tr>
<td>Week 10</td>
<td>Surface equipment overview, storage and metering</td>
</tr>
<tr>
<td>Week 11</td>
<td>Separation, dehydration</td>
</tr>
<tr>
<td>Week 12</td>
<td>Artificial lift overview</td>
</tr>
<tr>
<td>Week 13</td>
<td>Gas lift, submersible pumping</td>
</tr>
<tr>
<td>Week 14</td>
<td>Rod pumping</td>
</tr>
<tr>
<td>Week 15</td>
<td>FINALEXAM</td>
</tr>
</tbody>
</table>

It is expected that the students have read the assigned chapters or pages prior to class for the background necessary to properly participate in the discussion and think critically about the concepts addressed. As a general policy, for each hour you are in class, you (the student) should plan to spend at least two hours preparing for the next class. Since this course is for three credit hours, you should expect to spend around six hours outside of class each week reading or writing assignments for the class.
Ms CastnUo,

Attached you will find the documents requested from Dr. Thompson.

Some comments or notes:

- Rather than providing a "detailed description of the design project" from PETE 3050 and PETE 3085 I have removed them from the course. The design projects were left over from another course description used by a current Faculty member and should not have been left in the description for either course. Whether a Faculty member chooses to utilize a design project or not is left up to the discretion of the course instructor and we have not selected an instructor for these courses. We also do not anticipate teaching these courses any time within the next two years so any design project described now would likely be irrelevant that far down the road. The rest of these syllabi include the requested information (objectives and out of class expectations).
- PETE 3036 – I am not entirely sure what the issue was with the decision to drop CE 2200 as a prerequisite to PETE 3036, but I added a sentence to simply say it was dropped after review. If that is not sufficient then please let me know.
- We understand the issue with PETE 4050 – we are currently working on a plan for our graduate students since the switch to PETE 3050 will impact graduate students and may necessitate transitioning to a course similar to PETE 4050 for them. Again, we will drop the course in due time and we are only hesitating to make sure we can accommodate our graduate student population as best we can.

Please let us know if you need anything else on this matter.

RGH

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At their October 15th, 2013 meeting, the Faculty Senate Courses and Curriculum Committee took the following actions regarding the PETE proposals.

**PETE 3050 and 3085**
- The Committee conditionally approved the proposals to add PETE 3050 and 3085 pending revised syllabi including the learning objectives of the courses, out of class expectations (sample attached), as well as detailed descriptions of the design project.

**PETE 3036**
- The Committee conditionally approved the proposal to change PETE 3036 pending an explanation of why CE 2200 is being deleted from the prerequisite list.

All other proposals were approved; however, the committee noted that the department would have to submit paperwork to drop PETE 4050 in two years as the justification for the course suggests.

Please submit the requested documentation to Anna Castrillo in the Office of the University Registrar at 112 Thomas Boyd Hall or by email at acastrl@lsu.edu.

If you have any questions regarding the request, please feel free to contact me at lrouse@lsu.edu.