DOCUMENTS OF THE GENERAL FACULTY

PROPOSED CHANGES TO THE PETROLEUM ENGINEERING DEGREE PROGRAM IN THE COCKRELL SCHOOL OF ENGINEERING CHAPTER IN THE UNDERGRADUATE CATALOG 2018-2020

Dean Sharon L. Wood in the Cockrell School of Engineering has filed with the Secretary of the Faculty Council the following proposal to change the Petroleum Engineering Degree Program in the Cockrell School of Engineering chapter in the Undergraduate Catalog, 2018-2020. The Petroleum Engineering faculty approved the proposal on April 12, 2017; the Degrees and Courses Committee approved it on May 24, 2017; the Dean and the College faculty approved it on September 18, 2017. The Secretary has classified this proposal as legislation of exclusive interest to one college or school.

The Committee on Undergraduate Degree Program Review recommended approval of the proposal on December 5, 2017, and forwarded it to the Office of the General Faculty. The Faculty Council has the authority to approve this legislation on behalf of the General Faculty. The authority to grant final approval on this legislation resides with the Provost on behalf of the President.

If no objection is filed with the Office of the General Faculty by the date specified below, the legislation will be held to have been approved by the Faculty Council. If an objection is filed within the prescribed period, the legislation will be presented to the Faculty Council at its next meeting. The objection, with reasons, must be signed by a member of the Faculty Council.

To be counted, a protest must be received in the Office of the General Faculty by December 12, 2017.

Alan W. Friedman, Secretary of the General Faculty and Faculty Council
The University of Texas at Austin
Arthur J. Thaman and Wilhelmina Doré Thaman Professor of English and Comparative Literature

Distributed through the Faculty Council Wiki site https://wikis.utexas.edu/display/facultycouncil/Wiki+Home on December 6, 2017.
PROPOSED CHANGES TO THE PETROLEUM ENGINEERING DEGREE PROGRAM IN THE
COCKRELL SCHOOL OF ENGINEERING CHAPTER IN THE UNDERGRADUATE CATALOG 2018-
2020

TYPE OF CHANGE: ☒ Academic Change
☐ Degree Program Change (THECB form required)

PROPOSED CLASSIFICATION: ☒ Exclusive  ☐ General  ☐ Major

1. IF THE ANSWER TO ANY OF THE FOLLOWING QUESTIONS IS YES, THE COLLEGE MUST
CONSULT LINDA DICKENS, DIRECTOR OF ACCREDITATION AND ASSESSMENT, TO
DETERMINE IF SACSCOC APPROVAL IS REQUIRED.
   • Is this a new degree program?  ☐ Yes ☐ No ☒
   • Is this program being deleted?  ☐ Yes ☐ No ☒
   • Does the program offer courses that will be taught off campus?  ☐ Yes ☐ No ☒
   • Will courses in this program be delivered electronically?  ☐ Yes ☐ No ☒

2. EXPLAIN CHANGE TO DEGREE PROGRAM AND GIVE A DETAILED RATIONALE FOR
EACH INDIVIDUAL CHANGE:

PGE 368 replaced with PGE 358. Replacement course will cover a significant portion of material that goes
beyond well-logging interpretation, including applications in reservoir engineering, drilling, production,
geophysics. The change is mainly meant to more accurately reflect the course as it has evolved.

3. THIS PROPOSAL INVOLVES: (Please check all that apply)
   ☐ Courses in other colleges  ☐ Courses in proposer’s college that
   ☐ Course in the core  ☐ Change in course sequencing for
   ☐ Change in admission  ☐ Requirements not explicit in the
   curriculum  ☐ an existing program
   ☐ requirements (external or  ☐ Courses that have to be
   internal)  ☐ added to the inventory

4. SCOPE OF PROPOSED CHANGE:
   a. Does this proposal impact other colleges/schools?  ☐ Yes ☐ No ☒
      If yes, then how would you do so?
   b. Do you anticipate a net change in the number of students in your college?  ☐ Yes ☐ No ☒
      If yes, how many more (or fewer) students do you expect?
   c. Do you anticipate a net increase (or decrease) in the number of students from outside of your college
taking classes in your college?  ☐ Yes ☐ No ☒
      If yes, please indicate the number of students and/or class seats involved.
   d. Do you anticipate a net increase (or decrease) in the number of students from your college taking
courses in other colleges?  ☐ Yes ☐ No ☒
      If yes, please indicate the number of students and/or class seats involved.

If 4 a, b, c, or d was answered with yes, please answer the following questions:
If the proposal has potential budgetary impacts for another college/school, such as requiring new
sections or a non-negligible increase in the number of seats offered, at least one contact must be at
the college-level.
   How many students do you expect to be impacted? n/a
   Impacted schools must be contacted and their response(s) included:
       Person communicated with:
       Date of communication:
Response:
e. Does this proposal involve changes to the core curriculum or other basic education requirements (42-hour core, signature courses, flags)? If yes, explain: No
   If yes, Undergraduate Studies must be informed of the proposed changes and their response included:
      Person communicated with:
      Date of communication:
      Response:
   f. Will this proposal change the number of hours required for degree completion? No
      Note: THECB Semester Credit Hour Change Form required, download from URL: http://www.thecb.state.tx.us/reports/DocFetch.cfm?DocID=2419&format=doc
      If yes, explain:

5. COLLEGE/SCHOOL APPROVAL PROCESS
   Department approval date: April 12, 2017 PGE Faculty and chair
   College approval date: May 24, 2017 CSE Degrees & Courses Committee
   Dean approval date: Sept. 18, 2017 CSE Faculty; Sharon L. Wood, Dean

PROPOSED NEW CATALOG TEXT:

BACHELOR OF SCIENCE IN PETROLEUM ENGINEERING

{No changes up to this point.}

Curriculum
Course requirements include courses within the Cockrell School of Engineering and other required courses. In addition, each student must complete the University’s Core Curriculum. In some cases, a course that fulfills one of the following requirements may also be counted toward core curriculum or flag requirements; these courses are identified below.

In the process of fulfilling engineering degree requirements, students must also complete coursework to satisfy the following flag requirements: one independent inquiry flag, one course with a quantitative reasoning flag, one ethics and leadership flag, one global cultures flag, one cultural diversity in the US flag, and two writing flags. The independent inquiry flag, the quantitative reasoning flag, the ethics and leadership flag, and both writing flags are carried by courses specifically required for the degree; these courses are identified below. Courses that may be used to fulfill flag requirements are identified in the Course Schedule.

Courses used to fulfill technical and nontechnical elective requirements must be approved by the petroleum and geosystems engineering undergraduate adviser before the student enrolls in them.

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Petroleum and Geosystems Engineering Courses</strong></td>
<td></td>
</tr>
<tr>
<td>PGE 301 Engineering, Energy, and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>PGE 310 Formulation and Solution of Geosystems Engineering Problems</td>
<td>3</td>
</tr>
<tr>
<td>PGE 427 Properties of Petroleum Fluids</td>
<td>4</td>
</tr>
<tr>
<td>PGE 322K Transport Phenomena in Geosystems</td>
<td>3</td>
</tr>
<tr>
<td>PGE 326 Thermodynamics and Phase Behavior</td>
<td>3</td>
</tr>
<tr>
<td>PGE 333T Engineering Communication (writing flag and ethics and leadership flag)</td>
<td>3</td>
</tr>
<tr>
<td>PGE 323K Reservoir Engineering I: Primary Recovery</td>
<td>3</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>-------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>PGE 323L</td>
<td>Reservoir Engineering II: Secondary and Tertiary Recovery</td>
</tr>
<tr>
<td>PGE 334</td>
<td>Reservoir Geomechanics</td>
</tr>
<tr>
<td>PGE 337</td>
<td>Introduction to Geostatistics</td>
</tr>
<tr>
<td>PGE 362</td>
<td>Production Technology and Design</td>
</tr>
<tr>
<td>PGE 365</td>
<td>Resource Economics and Valuation</td>
</tr>
<tr>
<td>PGE 373L</td>
<td>Geosystems Engineering Design and Analysis</td>
</tr>
<tr>
<td>PGE 424</td>
<td>Petrophysics</td>
</tr>
<tr>
<td>PGE 430</td>
<td>Drilling and Well Completions</td>
</tr>
<tr>
<td>Chemistry</td>
<td></td>
</tr>
<tr>
<td>CH 301</td>
<td>Principles of Chemistry I (part II science and technology)</td>
</tr>
<tr>
<td>CH 302</td>
<td>Principles of Chemistry II</td>
</tr>
<tr>
<td>Engineering Mechanics</td>
<td></td>
</tr>
<tr>
<td>E M 306</td>
<td>Statics</td>
</tr>
<tr>
<td>E M 319</td>
<td>Mechanics of Solids</td>
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<tr>
<td>Geological Sciences</td>
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</tr>
<tr>
<td>GEO 303</td>
<td>Introduction to Geology</td>
</tr>
<tr>
<td>GEO 316P</td>
<td>Sedimentary Rocks</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
</tr>
<tr>
<td>M 408C</td>
<td>Differential and Integral Calculus (mathematics; quantitative reasoning flag)</td>
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<tr>
<td>M 408D</td>
<td>Sequences, Series, and Multivariable Calculus</td>
</tr>
<tr>
<td>M 427J</td>
<td>Differential Equations with Linear Algebra (quantitative reasoning flag)</td>
</tr>
<tr>
<td>or M 427K</td>
<td>Advanced Calculus for Applications I</td>
</tr>
<tr>
<td>Physics</td>
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<tr>
<td>PHY 303K</td>
<td>Engineering Physics I (part I science and technology; quantitative reasoning flag)</td>
</tr>
<tr>
<td>PHY 303L</td>
<td>Engineering Physics II (part I science and technology; quantitative reasoning flag)</td>
</tr>
<tr>
<td>PHY 103M</td>
<td>Laboratory for Physics 303K</td>
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<tr>
<td>PHY 103N</td>
<td>Laboratory for Physics 303L</td>
</tr>
<tr>
<td>Rhetoric and Writing</td>
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<tr>
<td>RHE 306</td>
<td>Rhetoric and Writing (English composition)</td>
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<tr>
<td>Other Required Courses</td>
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<tr>
<td>Approved technical area electives</td>
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<tr>
<td>Remaining Core Curriculum Courses</td>
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</tr>
<tr>
<td>E 316L</td>
<td>British Literature (humanities; [in E 316L, 316M, 316N, and 316P] some sections carry a global cultures or cultural diversity flag)</td>
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</tbody>
</table>
or E 316M  American Literature *(humanities; some sections carry a global cultures or cultural diversity flag)*
or E 316N  World Literature *(humanities; some sections carry a global cultures or cultural diversity flag)*
or E 316P  Masterworks of Literature *(humanities; some sections carry a global cultures or cultural diversity flag)*

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>American and Texas government <em>(some sections carry a cultural diversity flag)</em></td>
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</tr>
<tr>
<td>American history <em>(some sections carry a cultural diversity flag)</em></td>
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</tr>
<tr>
<td>Visual and performing arts <em>(some sections carry a global cultures and/or cultural diversity flag)</em></td>
<td>3</td>
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<tr>
<td>Social and behavioral sciences <em>(some sections carry a global cultures and/or cultural diversity flag)</em></td>
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</tr>
<tr>
<td>UGS 302  First-Year Signature Course <em>(in UGS 302 all sections carry writing flag; in UGS 303 some sections carry a writing flag)</em></td>
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</tr>
<tr>
<td>or UGS 303  First-Year Signature Course <em>(in UGS 303 some sections carry a writing flag)</em></td>
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**Total Hours** 128

**SUGGESTED ARRANGEMENT OF COURSES**

**First Year**

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<th>First Term</th>
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<th>Second Term</th>
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<tr>
<td>GEO 303</td>
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<td>PHY 303K</td>
<td>3</td>
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<tr>
<td>CH 301</td>
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<td>PHY 103M</td>
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<tr>
<td>M 408C</td>
<td>4</td>
<td>M 408D</td>
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<td>RHE 306</td>
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<td>PGE 301</td>
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<td>UGS 302 or 303</td>
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<td>CH 302</td>
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Social and behavioral sciences or visual and performing arts 3

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<th>First Term</th>
<th>Hours</th>
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<th>Hours</th>
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**Second Year**

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<tr>
<td>PHY 303L</td>
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<td>GEO 316P</td>
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<tr>
<td>PHY 103N</td>
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<td>E M 319</td>
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<tr>
<td>E M 306</td>
<td>3</td>
<td>PGE 333T</td>
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<td>M 427J or 427K</td>
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<td>Social and behavioral sciences or visual or performing arts</td>
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<td>PGE 310</td>
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<td>PGE 427</td>
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<td>PGE 326</td>
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**Third Year**

<table>
<thead>
<tr>
<th>First Term</th>
<th>Hours</th>
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<tbody>
<tr>
<td>First Term</td>
<td>Hours</td>
<td>Second Term</td>
<td>Hours</td>
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</tr>
<tr>
<td>PGE 323K</td>
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<td>PGE 323L</td>
<td>3</td>
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<tr>
<td>PGE 424</td>
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<td>PGE 362</td>
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<tr>
<td>PGE 430</td>
<td>4</td>
<td>PGE 358</td>
<td>3</td>
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<tr>
<td>PGE 322K</td>
<td>3</td>
<td>American history</td>
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<tr>
<td>American government</td>
<td>3</td>
<td>Approved technical area elective</td>
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**Fourth Year**

<table>
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<th>Second Term</th>
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<tbody>
<tr>
<td>PGE 334</td>
<td>3</td>
<td>PGE 373L</td>
<td>3</td>
</tr>
<tr>
<td>PGE 337</td>
<td>3</td>
<td>E 316L, 316M, 316N, or 316P</td>
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<tr>
<td>PGE 365</td>
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<td>American history</td>
<td>3</td>
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<td>Approved technical area elective</td>
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Total credit hours: 128