34. Texas A&M University at Qatar

a. New Courses

**PETE 336. Petroleum Technical Presentations I. (0-3). Credit 1.** Preparation of a written technical paper on a subject related to petroleum technology and an oral presentation of the paper in a formal technical conference format; oral presentation judged by petroleum industry professionals. Prerequisites: ENGL 210; junior or senior classification; petroleum engineering majors only; or approval of department head.

**PETE 436. Petroleum Technical Presentations II. (0-3). Credit 1.** Preparation of a written technical paper on a subject related to petroleum technology and an oral presentation of the paper in a formal technical conference format; oral presentations judged by petroleum industry professionals at the departmental student paper contest held during the same academic year. Prerequisites: PETE 336; senior classification; petroleum engineering majors only; or approval of department head.

b. Change in Course

**ECEN 210. Computer Programming and Algorithms**

Lab contact hours and semester credit hours

From: (3-1). Credit 3.
To: (3-3). Credit 4.
Texas A&M University
at Qatar
TAMUQ
NEW COURSES
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and attach a course syllabus.

1. Request submitted by (Department or Program Name):
   Harold Vance Department of Petroleum Engineering

2. Course prefix, number and complete title of course:
   PETE 336 Petroleum Technical Presentations I

3. Catalog course description (not to exceed 50 words):
   Preparation of a written technical paper on a subject related to petroleum technology and an oral presentation of
   the paper in a formal technical conference format; oral presentations judged by petroleum industry professionals.

4. Prerequisite(s):
   ENGL 210; junior or senior classification, petroleum engineering majors only; or approval of department head

5. Cross-listed with:

6. Stacked with:

   Cross-listed courses require the signature of both department heads.

7. Is this a variable credit course? □ Yes □ No
   If yes, from _______ to _______

8. Is this a repeatable course? □ Yes □ No
   If yes, this course may be taken _______ times.

9. Will this course be repeated within the same semester? □ Yes □ No

   This course will be:
   a. □ required for students enrolled in the following degree program(s) (e.g., B.A. in history)
      D.G. in Petroleum Engineering at Texas A&M University at Qatar only
   b. □ an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in geography)

10. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments.
    Attach approval letters.

11. Prefix Course # Title (excluding punctuation)
    PETE 336 Petroleum Technical Presentations I

   Lect. Lab SCH CIP and Fund Code Admin. Unit Acad. Year FICE Code
   00301142501006

   Approval recommended by:
   V. Cakelmas 3/10/2013

   Department Head or Program Chair (Type Name & Sign) Date
   11/26/13

   Department Head or Program Chair (Type Name & Sign) Date
   (if cross-listed course)

   Submitted to Coordinating Board by:
   Associate Director, Curricular Services

   Chair, GC or UCC
   Date Effected

   Questions regarding this form should be directed to Sandra Williams at 845-8211 or sandra.williams@tamu.edu
   Curricular Services • 3/10
Course title and number: Petroleum Technical Presentations I PETE 336
Term (e.g., Fall 200X): Spring 2015
Meeting times and location: W 12:30-15:20 QENG 213F

Course Description and Prerequisites

Catalog Description: Preparation of a written technical paper on a subject related to petroleum technology and an oral presentation of the paper in a formal technical conference format; oral presentations judged by petroleum industry professionals.

Prerequisites(s): ENGL 210; junior or senior classification, petroleum engineering majors only; or approval of department head.

Learning Outcomes or Course Objectives

<table>
<thead>
<tr>
<th>Course Learning Outcome: At the end of the course, students will be able to</th>
<th>Program Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identify an engineering problem in the oil and gas industry, either general in nature or related to a specific field</td>
<td>e, i</td>
</tr>
<tr>
<td>Search modern electronic databases containing literature in petroleum technology to find papers related to the engineering problem identified, and compile a bibliography in SPE format</td>
<td>e, i, k</td>
</tr>
<tr>
<td>Read papers found in the literature search, identify those that are relevant to the problem chosen, and summarize the relevance of each in two or three sentences</td>
<td>e, i</td>
</tr>
<tr>
<td>Prepare a literature review, properly citing references using the Society of Petroleum Engineers (SPE) guidelines, summarizing what has been done by previous authors to address the problem of interest, the weaknesses in previous solutions or what has not been done, and the need for further study</td>
<td>e, f, g, i</td>
</tr>
<tr>
<td>Set objectives (consistent with identified study needs) for an independent study (that can be completed using only resources that are reasonably certain to be available to the student) of the petroleum engineering problem identified</td>
<td>c, e, i</td>
</tr>
<tr>
<td>Prepare a plan, consisting of proposed methodology, available data and a list of tasks, to accomplish the study objectives</td>
<td>c, e, i, k</td>
</tr>
<tr>
<td>Identify the significance, potential benefits, and possible applications of the anticipated results of the independent study</td>
<td>c, h, i</td>
</tr>
<tr>
<td>Write a title and abstract for the study proposal consistent with SPE standards</td>
<td>g</td>
</tr>
<tr>
<td>Prepare Microsoft PowerPoint slides for an oral presentation of the proposed study</td>
<td>g, k</td>
</tr>
<tr>
<td>Present the proposal orally to a panel of practicing engineers from the petroleum industry and faculty members in 10 to 15 minutes, using PowerPoint slides</td>
<td>g</td>
</tr>
</tbody>
</table>
Related Program Outcomes:

<table>
<thead>
<tr>
<th>No.</th>
<th>PETE graduates must have...</th>
</tr>
</thead>
<tbody>
<tr>
<td>c</td>
<td>An ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability</td>
</tr>
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<td>e</td>
<td>An ability to identify, formulate, and solve engineering problems</td>
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<tr>
<td>f</td>
<td>An understanding of professional and ethical responsibility</td>
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<td>An ability to communicate effectively</td>
</tr>
<tr>
<td>h</td>
<td>The broad education necessary to understand the impact of engineering solutions in a global and societal context</td>
</tr>
<tr>
<td>i</td>
<td>A recognition of the need for, and an ability to engage in lifelong learning</td>
</tr>
<tr>
<td>k</td>
<td>An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice</td>
</tr>
</tbody>
</table>

Instructor Information

Name: Albertus Retnanto
Telephone number: +974 4423 0281
Email address: albertus.retnanto@qatar.tamu.edu
Office hours: UTR 15:00 – 17:00
Office location: QENG 202B

Textbook and/or Resource Material

Required: SPE Style Guide, Society of Petroleum Engineers, Richardson, TX, 2011; excerpts from other sources provided as class notes

Grading Policies

Method of Evaluation:
- Weekly Presentations 25%
- Weekly Written Assignments 25%
- Final Presentation 25%
- Final Written Report 25%

Course Topics, Calendar of Activities, Major Assignment Dates

Topics Covered:
1. Introduction, library notes
2. Determining audience and purpose; writing abstracts
3. Writing lab reports, conclusions, titles
4. Citations and references, introductions
5. Figures and tables
6. Equations, lists
7. Introduction to library and literature database resources; avoiding plagiarism, copyright infringement
8. Conducting and writing a review of technical literature
9. Engineering method vs. scientific method
10. Writing a technical proposal
11. Writing titles, abstracts for technical papers
12. Writing the technical paper
13. Designing and developing PowerPoint slides
14. Developing and delivering the oral presentation
Other Pertinent Course Information

Americans with Disabilities Act (ADA)
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact Student Affairs in suite 318C of the Texas A&M University at Qatar Building. For additional information visit http://disability.tamu.edu

Academic Integrity
For additional information please visit: http://accdehonor.tamu.edu

"An Aggie does not lie, cheat, or steal, or tolerate those who do."
Texas A&M University
Departmental Request for a New Course
Undergraduate • Graduate • Professional
Submit original form and attach a course syllabus.

1. Request submitted by (Department or Program Name): Harold Vance Department of Petroleum Engineering
2. Course prefix, number and complete title of course: PETE 436 Petroleum Technical Presentations II
3. Catalog course description (not to exceed 50 words):
Preparation of a written technical paper on a subject related to petroleum technology and an oral presentation of the paper in a formal technical conference format; oral presentations are judged by petroleum industry professionals at the departmental student paper contest held during the same academic year.

4. Prerequisite(s):
PETE 336, senior classification, petroleum engineering majors only; or approval of department head

5. Is this a variable credit course?  □ Yes  ☑ No  If yes, from ________ to ________

6. Is this a repeatable course?  □ Yes  ☑ No  If yes, this course may be taken ________ times. Will this course be repeated within the same semester?  □ Yes  □ No

7. This course will be:
   a. required for students enrolled in the following degree program(s) (e.g., B.A. in History)
      B.S. in Petroleum Engineering at Texas A&M University at Qatar only.
   b. an elective for students enrolled in the following degree program(s) (e.g., M.S., Ph.D. in Geography)

8. If other departments are teaching or are responsible for related subject matter, the course must be coordinated with these departments.
   Attach approval letters.

9. Prefix  Course #  Title (excluding punctuation)

<table>
<thead>
<tr>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
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<td>221014-15</td>
<td>003632</td>
<td></td>
</tr>
</tbody>
</table>

Approval recommended by:

Department Head or Program Chair (Type Name & Sign) Date

Chair, College Review Committee Date

Dean of College Date

Submitted to Coordinating Board by:

Associate Director, Curricular Services

Questions regarding this form should be directed to Sarah Willett at 845-8201 or sarah.willett@tamu.edu
Curricular Services – 3/10
Course title and number: Petroleum Technical Presentations II PETE 436
Term (e.g., Fall 200X): Fall 2014
Meeting times and location: M 12:30-15:20 QENG 202G

Course Description and Prerequisites

Catalog Description: Preparation of a written technical paper on a subject related to petroleum technology and an oral presentation of the paper in a formal technical conference format; oral presentations are judged by petroleum industry professionals at the departmental student paper contest held during the same academic year.

Prerequisites(s): PETE 336, Senior classification in petroleum engineering majors only; or approval of department head

Learning Outcomes or Course Objectives

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<tbody>
<tr>
<td>Outline in detail an introduction for your paper/presentation consisting of problem statement, review of previous work presented in the literature, need for further study, and study objectives</td>
<td>e, g, i, k</td>
</tr>
<tr>
<td>Outline in detail a Methodology section for your paper/presentation, indicating planned tasks, data and methods you will use, and assumptions you will make in the study</td>
<td>c, e, g, i, k</td>
</tr>
<tr>
<td>Prepare a References section, consistent with the SPE style guide, listing all literature cited in the Introduction and Methodology sections</td>
<td>e, f, g, i</td>
</tr>
<tr>
<td>Gather information, make calculations and/or analyze data to achieve the specific objectives set in your proposal for an independent study</td>
<td>b, c, e, i, k</td>
</tr>
<tr>
<td>Summarize the results of your independent study in appropriate textual, tabular and graphical forms, consistent with engineering and Society of Petroleum Engineers (SPE) presentation standards</td>
<td>b, g, k</td>
</tr>
<tr>
<td>Prepare a Discussion section for your paper/presentation, including your analysis and interpretation of study results</td>
<td>b, e, g, i, k</td>
</tr>
<tr>
<td>Identify limitations of your work and prepare recommendations for further work, if appropriate, supported by evidence presented in the results and discussion of your study</td>
<td>b, c, e, g, k</td>
</tr>
<tr>
<td>Identify the significance, potential benefits, and possible applications of the results and conclusions of your independent study</td>
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</tr>
<tr>
<td>Write a title and abstract for the independent study consistent with SPE standards</td>
<td>g</td>
</tr>
<tr>
<td>Prepare the paper describing your independent study consistent with SPE presentation standards</td>
<td>g, k</td>
</tr>
<tr>
<td>Prepare Microsoft PowerPoint slides for your independent study that can be used in an oral presentation to persuade others that the study results, conclusions and recommendations are correct and useful</td>
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</tr>
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<tbody>
<tr>
<td>b</td>
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<td>c</td>
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Instructor Information

Name: Albertus Retnanto
Telephone number: +974.4423.0281
Email address: albertus.retnanto@qatar.tamu.edu
Office hours: UTR 15:00 – 17:00
Office location: QENG 202B

Textbook and/or Resource Material

Required: SPE Style Guide, Society of Petroleum Engineers, Richardson, TX, 2011; Writing Reports With Confidence and Style (downloadable from course website at elearning.tamu.edu)
EndNote software (available from sell.tamu.edu) or Zotero software (available from zotero.com), excerpts from other sources provided as class notes

Grading Policies

Method of Evaluation:
- Student Paper Contest: 20%
- Midterm: 20%
- Weekly Written Assignments: 20%
- Oral Presentation: 20%
- Written Report: 20%

Course Topics, Calendar of Activities, Major Assignment Dates

Topics Covered:
1. Review of library and literature database resources
2. Conducting and writing a review of technical literature
3. Engineering method vs. scientific method
4. Conducting an independent study of an engineering problem
5. Analysis/interpretation of results and drawing conclusions
6. Organizing the technical paper
7. Writing titles, abstracts
8. Preparing and submitting the technical paper
9. Designing and developing PowerPoint slides
10. Developing and delivering the oral presentation
Other Pertinent Course Information

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Academic Integrity
For additional information please visit: http://aggiehonor.tamu.edu

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TAMUQ

CHANGE IN COURSES
Texas A&M University
Departmental Request for a Change in Course
Undergraduate • Graduate • Professional
Submit original form and attachments

1. Request submitted by (Department or Program Name): Texas A&M University at Qatar - Electrical Engineering

2. Course prefix, number and complete title of course: ECEN 210 - Computer Programming and Algorithms

3. Change requested
   a. Prerequisite(s): From: ____________________ To: ____________________
   b. Withdrawal (reason): ____________________
   c. Cross-list with: ____________________
   Cross-listed courses require the signature of both department heads.
   d. Change in course title and description. Enter complete current course title and current course description in item 5; enter proposed course title and proposed course description in item 6. Complete item 7 for change in title.
   e. Change in course number, contact hours (lab & lecture), and semester credit hours. Complete item 7. Attach a course syllabus.

4. For informational purposes only, please indicate course number if this course will be stacked: ____________________

5. Complete current course title and current catalog course description: ____________________

6. Complete proposed course title and proposed catalog course description (not to exceed 50 words):

a. As currently in course inventory:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Course #</th>
<th>Title (excluding punctuation)</th>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>FICE Code</th>
<th>Level</th>
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<tr>
<td>ECEN</td>
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<td>COMP PROG &amp; ALGORITHMS</td>
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<td>14100100006093670</td>
<td>3632</td>
<td>2</td>
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</tr>
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</table>

b. Change to:

<table>
<thead>
<tr>
<th>Prefix</th>
<th>Course #</th>
<th>Title (excluding punctuation)</th>
<th>Lect.</th>
<th>Lab</th>
<th>SCH</th>
<th>CIP and Fund Code</th>
<th>Admin. Unit</th>
<th>Acad. Year</th>
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<th>Level</th>
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<tbody>
<tr>
<td>ECEN</td>
<td>210</td>
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</tbody>
</table>

Approval recommended by: ____________________

Dr. H. Almeida
Department Head or Program Chair (Type Name & Sign) Date: 12/11/2013

Chair, College Review Committee Date: 11/12/13

Dean of College Date: 6/25/13

Chair, GC or UCC Date: ____________________

Associate Director, Curricular Services

Questions regarding this form should be directed to Sandra Williams at 845-8201 or sandra.williams@tamu.edu
Curricular Services - 02/11

R RECEIVED DEC 02 2013
ECEN 210 Computer Programming and Algorithms
Course Syllabus – Spring 2014

Lecture: TBA
Lab: TBA

Course Description
Introduction to C language programming and common algorithms; computer systems; simple C programs; basic language constructs; file I/O; modular programming and functions; arrays and matrices; pointers and strings; simple data structures; searching, sorting, and numerical algorithms; algorithmic complexity.

Prerequisites
Sophomore classification in an engineering major

Learning Outcomes
Upon completing this course, students will be able to:

1. Identify the main hardware components of a computer system and explain the software development process.
2. Explain the structure of a C program, and use proper language syntax and good coding practices.
3. Use C language constructs to implement arithmetic, logical, conditional, iterative, and branching operations.
4. Use appropriate system calls to read user data, display program results, and perform basic file input/output operations.
5. Partition programs into functions, and pass parameters and results between functions.
6. Declare one-and two-dimensional arrays and perform simple vector and matrix operations.
7. Declare pointers and use them to reference variables and pass parameters to functions.
8. Declare user-defined data types and operate on simple data structures.
9. Explain basic search, sort, and numerical algorithms.
10. Determine the time and space complexity of simple algorithms.
Instructor Information

Name: Mazen A. R. Saghir  
Telephone: +974-423-0311 (GMT+3)  
E-Mail: mazen.saghir@qatar.tamu.edu  
Office: 319C Texas A&M Engineering Building  
Education City, Doha, Qatar

Textbooks


Grading Policies

Lab Assignments (weeks 2-14): 40%  
Term Exam 1 (week 5): 16%  
Term Exam 2 (week 10): 16%  
Final Exam (TBD by Office of Records): 20%  
Attendance and Class Participation: 8%

A = 100 – 90  
B = 89 – 80  
C = 79 – 70  
D = 69 – 60  
F = 59 and below

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Topic</th>
<th>Required Reading</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Computer systems</td>
<td>–</td>
</tr>
<tr>
<td>2</td>
<td>Simple C programs</td>
<td>K&amp;R: 2.1 -2.12</td>
</tr>
<tr>
<td>3, 4</td>
<td>Basic language constructs and file I/O Modular programming and functions</td>
<td>K&amp;R: 3.1 -3.7; 7.1 -7.5</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>K&amp;R: 4.1 -4.5</td>
</tr>
<tr>
<td>6, 7</td>
<td>Arrays and matrices</td>
<td>K&amp;R: 5.1 -5.4</td>
</tr>
<tr>
<td>8, 9</td>
<td>Pointers and strings</td>
<td>K&amp;R: 5.5 -5.9</td>
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<tr>
<td>10, 11</td>
<td>Simple data structures</td>
<td>Loudon: Chs. 5, 6, and 9</td>
</tr>
<tr>
<td>12, 13</td>
<td>Searching, sorting, and numerical algorithms</td>
<td>Loudon: Chs. 12 and 13</td>
</tr>
<tr>
<td>14</td>
<td>Algorithmic complexity</td>
<td>Loudon: Ch. 4</td>
</tr>
</tbody>
</table>
Course Topics

Week 1: Computer systems
- Hardware: CPU, memory, I/O; software: programming languages, compilers, assemblers, linkers, loaders, operating systems.

Week 2: Simple C programs
- Constants and variables; assignment statements; standard input and output; built-in mathematical and character functions.

Weeks 3 and 4: Basic language constructs and file I/O
- Conditional expressions; selection statements; loop structures; reading and writing data files.

Week 5: Modular programming and functions
- Code modularity; functions; macros; recursion.

Weeks 6 and 7: Arrays and matrices
- One-dimensional arrays; simple sorting and searching; two-dimensional arrays; matrices and vectors.

Weeks 8 and 9: Pointers and strings
- Addresses and pointers; pointers to array elements; pointers in function references; character strings; dynamic memory allocation.

Weeks 10 and 11: Simple data structures
- Structures; user-defined data types; linked lists; stacks, queues, and trees.

Weeks 12 and 13: Common algorithms
- Searching, sorting, and numerical algorithms.

Week 14: Algorithmic complexity
- Worst-case analysis; O-Notation.
Student Attendance Policy

Students are expected to now and follow Student Rule #7: [http://student-rules.tamu.edu/rule07](http://student-rules.tamu.edu/rule07), of the Student Rules.

Americans with Disabilities Act (ADA) Policy Statement

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