

# PTRT 1301: Overview & Introduction to the Petroleum Industry

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## Course Description

**Course Description:** An overview of the entire petroleum industry. Purposes and proper procedures in a variety of different petroleum technologies: exploration, drilling, production, transportation, marketing, and refining.

**Student Learning Outcomes:** Determine activities and analyze relationships between finding, producing, and transporting oil and gas; and select and use terms and phrases associated with the petroleum industry. Development of leadership skills and critical thinking strategies that promote employment readiness, retention, advancement, and promotion. Identify characteristics of employees who are well-qualified for employment and worthy of promotion and retention in the workforce.

- Explain critical thinking strategies within the context of strong leadership.
- Apply effective business communication skills.
- Utilize data and information to make effective decisions.
- Identify roles and strategies used in group processes and team building.

## Prerequisites

Enrollment in the course

## Course Goals (includes competencies, incorporation of SCANS, etc.)

Students will use computers, employ software, make an oral presentation, write a report based on web searches and literature reviews, develop problem solving technical skills.

Students must communicate to me by email if they are missing any handouts provided to other students in this class. I expect students to freely communicate their difficulties to me as soon as they experience any. It is the responsibility of each student to check their email for updates, class changes or exam related communication.

## Instructor Information

Ifeanyi Oramulu

[Ifeanyi.oramulu1@hccs.edu](mailto:Ifeanyi.oramulu1@hccs.edu)

OR

Ph.713.718.8300 Leave a message with the Dept Secretary (Energy Institute)

## Textbook Information

“The Petroleum Industry-A Nontechnical Guide” by Charles F. Conaway. PennWell: Tulsa, OK. (1999).

ISBN10: 0-87814-763-2 or ISBN13: 978-0-87814-763-2

Additional hand out will be distributed during the semester.

## Lab Requirements (if any)

None

## Students with Disabilities

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the Disability Services Office of their respective college at the beginning of each semester. Faculty is authorized to provide only the accommodations requested by the Disability Support

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Services Office.

For questions, contact Donna Price at 713-718-5165 or the Disability Counselor at your college. To visit the ADA Web site, log on to [www.hccs.edu](http://www.hccs.edu), click Future Students, scroll down the page and click on the words Disability Information.

- \* District ADA Coordinator – Donna Price – 713-718-5165
- \* Central ADA Counselors – John Reno – 713-718-6164,  
Martha Scribner – 713-718-6164
- \* Northeast ADA Counselor – Kim Ingram – 713-718-8420
- \* Northwest ADA Counselor – Mahnaz Kolaini – 713-718-5422
- \* Southeast ADA Counselor – Jette Friis – 713-718-7218
- \* Southwest ADA Counselor – Dr. Becky Hauri – 713-718-7910
- \* Coleman ADA Counselor – Dr. Raj Gupta – 713-718-7631

## **Academic Honesty**

All HCC rules, policies, and regulations apply as they are described in the 2007 HCC Student Handbook. Know about cheating, collusion, and plagiarism.

## **Attendance and Withdrawal Policies**

All students are required to be present during class sessions. Students must communicate with faculty in cases they need to be absent from a class period. Withdrawal policies apply as they are described in the HCC policy, rules, and regulations. All students must consult the HCC student handbook and college catalogue regarding withdrawal policies. Excessive tardiness, early departure and absence may result in a grade of F.

## **Course Requirements and Grading Policy**

All students are required to be on time for lectures and highly encouraged and challenged to participate during lectures in the course.

- A 90-100
- B 80-89
- C 70-79
- D 60-69
- F 0-59

## **Testing**

There will be five tests for this course. Each test will cover material from chapters, which are used for lecture presentations (**60%**).

One End-of Class Term Project (**20%**). The project will be represented by a 10 slide (maximum) power point presentation and 10-15 pages of double spaced, consistently formatted, typed material, using Times New Roman size 12 font. Projects will be further described in class.

HW assignments. Homework will be two pages overview of assigned topics, including any additional work assigned by me. (Single space, 12 size font, Times Roman style; **10%**.  
Note: All Students are responsible for printing all assigned homework and turning them in

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before the last day of class. Grades for the homework papers will be in accordance to stipulation in class and this syllabus. It is your responsibility to make sure your typed work is turned in to me. Verify with me if you have questions.

Class Participation: Students are expected to participate in class willingly. Class participation will be assigned the grade of **(10%)**.

Summary:

All Tests (4 Test) = **40%**

Finals Exam = **20%**

Term Project to be Presented In Class = **20%** (Must Follow Class Instructions)

Home work = **10%** (Must Follow Class Instructions)

Class Participation: **10%** (You must participate in class question and answers to earn point)

**NOTE: Print All Your Work And Turn them in to me prior to your finals:**

Attendance is mandatory; please let the instructor know of any absences.

## **Make-up policy**

Make up will be allowed for an excused absence, such as funeral leave or illness of self or a child, or jury duty. Excused Absences require documentation of the reason & notification of the instructor in advance of the absence.

## **Projects, Assignments, Portfolios, Service Learning, Internships, etc.**

One project will be assigned to students. The project is due one week before the finals week of the semester. Students will use both internet and library resources to do the projects. All detail explanations regarding projects will be given to students for their work, including the scoring rubric.

## **Course Contents**

Week 1 Introductions, How the Earth was Formed

Week 2 Petroleum Origins and Accumulations/Petroleum Exploration

Week 3 Contracts and Regulations

Week 4 Test I

Week 5 Drilling and Reservoir Performance..

Week 5 Formation, Evaluation, and Well Completions .

Week 6 Field Appraisal and Development

Week 7 Test II

Week 8 Artificial Lift

Week 9 Surface Facilities and Natural Gas

Week 10 Test III

Week II Refining and Petrochemicals

Week 12 Petroleum Marketing

Week 13 Test IV

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Week 14 Basic Petroleum Reservoir Concepts

Week 15 Fluid Flow Phenomena, Material and Energy Balance Concepts

Week 16 Test V and Project Due

We will also look at world supply and demand; industry trends and statistics; headline news and journal articles. NOTE: the planned schedule may have to be revised; if so, then students will be so advised and the syllabus will be revised and re-issued.

## **Course Calendar with Reading Assignments**

The course follows the HCC standard 16-week calendar. We will cover chapters at the rate of about 1-2 per week. This will be specifically assigned in class as an incentive to attend and communicate.

## **Other Student Information (clubs, tutoring, web resources, etc.)**

### **Student Organizations**

Students are encouraged to join the Petroleum Engineering Technology Students Association. Additional help and support is available upon request from your instructor by appointment. Students are encouraged to join the Society of Petroleum Engineers Gulf Coast section. Students are encouraged also to join the American Chemical Society Students Affiliates section

### **Professional & Student Organizations**

Students are encouraged to visit informative sites of:

The American Chemical Society

The Society of Petroleum Engineers

The American Institute of Chemical Engineers

If tours may be arranged, then one class may also be held at an industry site for additional training/learning opportunities. Students will be notified well in advance.

### **Career Exploration**

The petroleum industry hires these highly skilled individuals for multiple field and office positions. This challenging program is designed to train petroleum engineering technicians in all areas of down and mid stream petroleum industry operations. Students complete an intense core curriculum in areas that include hydrocarbon safety, drilling, petroleum geology, oil and gas exploration and production, reservoir operations, well head completions, petroleum data management operations and analysis, natural gas production, and economics. In conjunction with these courses, students will employ the latest computer software in E&P, operations, data mining, and geological mapping. The curriculum is based upon the core duties and related tasks identified by industry organizations such as BP (primarily), Shell, Chevron/Texaco, Exxon Mobil, Bechtel Corporation, Conoco, Halliburton and others. Graduates of Petroleum Engineering Technology are employed in process design, data entry and evaluation, well operations, environmental control, plant engineering, geological surveys, engineering sales, research

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and development, and manufacturing. Common industries for employment include: power, gas processing, refineries, petrochemical processing, oil and gas mining, manufacturing drilling and exploration services.