

## **Bossier Parish Community College Master Syllabus**

**Course Prefix and Number:** OGPT 103

**Credit Hours:** 3-3-0

**Course Title:** Drilling Technology

**Course Prerequisite:** None

**Textbook:** Deveraux, Steve. Drilling Technology in Nontechnical Language. Tulsa, OK: PennWell Corp., 2012. ISBN-13: 978-1-59370-264-9.

**Course Description:** This course is a study of practices and procedures involved in complex drilling, completion and workover operations. The course is also an introduction to the fracturing process, including its mechanics and evaluation of success. Practice is provided in volume calculations, hydrostatic pressures, formations pressures, and analyzing problems in downhole drilling operations and completions. Students estimate production and completion data to develop a personal plan of action for completing and working over a well which include: completion design process; wellbore and completion equipment; artificial lift equipment; completion and work over fluids; well testing; stimulation; wireline; and coiled tubing.

### **Learning Outcomes:**

At the end of this course, the student will:

- A. Recognize how geology is related to drilling processes;
- B. Apply the fundamentals of exploration, including technical data, prospect/leasing, and other exploration techniques;
- C. Distinguish various drilling and completion designs, phases, techniques, operations;
- D. Compare rig classification and associated equipment for drilling and completions;
- E. Describe the function of drilling and completion fluids, classification, design, casing and cementing;
- F. Evaluate various well appraisal techniques, including sampling, logging, testing, wireline and coil tubing;
- G. Compare well control types and equipment for drilling, completion and workover wells;

### **Course Objectives:**

To achieve the learning outcomes, the student will:

(The letter designations at the end of each statement refer to the learning outcome(s).)

1. Identify geological principals related to drilling processes; (A)
2. Apply the fundamentals related to oil and gas exploration techniques, including types of data, leasing, and other techniques; (B)
3. Describe the drilling and completion design, phases, and related well operations; (C)
4. Identify rig classification and associated equipment for drilling and completions; (D)

5. Describe the function of drilling and completion fluids, fluid design and classification; (E)
6. Develop basic understanding of the importance and evaluation of casing and cementing processes; (E)
7. Describe well evaluation techniques, including sampling, testing, and logging; (F)
8. Identify fundamentals of well control, including types and equipment necessary. (G)

**Course Requirements:** Complete all homework assignments, lectures, tests, and final exam. Textbook, computer access and scientific calculator are required.

**Course Grading Scale:**

90% to 100%	=	A
80% to < 90%	=	B
70% to < 80%	=	C
60% to < 70%	=	D
< 60%	=	F

**Attendance Policy:** The college attendance policy is available at <http://catalog.bpcc.edu/content.php?catoid=5&navoid=369>

**Course Fees:** This course is accompanied with an additional non-refundable fee for supplemental materials, laboratory supplies, software licenses, certification exams, and/or clinical fees.

**Nondiscrimination Statement:** Bossier Parish Community College does not discriminate on the basis of race, color, national origin, gender, age, religion, qualified disability, marital status, veteran's status, or sexual orientation in admission to its programs, services, or activities, in access to them, in treatment of individuals, or in any aspect of its operations. Bossier Parish Community College does not discriminate in its hiring or employment practices.

Title VI, Section 504, and ADA Coordinator

Angie Cao, Manager

Career Services, F-254

6220 East Texas Street

Bossier City, LA 71111

Phone: 318-678-6511

Email: [acao@bpcc.edu](mailto:acao@bpcc.edu)

Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.

Equity/Compliance Coordinator

Teri Bashara, Director of Human Resources

Human Resources Office, A-105

6220 East Texas Street

Bossier City, LA 71111

Phone: 318-678-6056

Hours: 8:00 a.m.-4:30 p.m. Monday - Friday, excluding holidays and weekends.