

Oklahoma State University Institute of Technology
Face-to-Face Common Syllabus
Fall 2017

SEPP 1123 Intro to Power Plant 60184 - SEPP 1123 - 0

A survey of electric power generation and power plant systems and processes. Emphasis is placed on generating station facilities, power utility philosophy, organizational structure, communication, health and safety, and career paths. Students must have taken or be enrolled in Intermediate Algebra. Theory. Co-requisite: MATH 1513.

Course Purpose:

Is to introduce students to various aspects of the Power Generation Industry.

Type of Course: Theory/Lab

Credit Hours: 3; Total clock hours of theory per semester: 48;

Total clock hours of lab per semester: 32;

Class Length: 1st half

Class Days and Times: M-F 12:30-2:25

Prerequisites: Students must have taken or be enrolled in Intermediate Algebra. Theory. Co-requisite: MATH 1513.

Instructor Name: Terry Hanzel

Instructor Phone: (918) 293-5148

Office: Bldg 400 Rm 101M

Instructor Email: thanzel@okstate.edu

Contact: My preferred method of contact is email, text, or call. Please allow 24-48 hours to return your correspondence during the normal work week. Cell # is 918-470-4423

Instructor's Office Hours: Posted outside my office. Cell# 918-470-4423

School Name: School of Energy

School Main Phone: 918-293-3812

REQUIRED TEXT, REFERENCES, AND MATERIALS

Texts: GPI online training provided by OG&E no purchase necessary.

References: NA

Materials: Thumb drive, clipboard, notebook (1"-1.5" D-ring), index cards, Department T-shirt or gray OSU T-shirt, Hard Hat, Safety Glasses, safety toe boots, (for site visits, access to digital camera (Phone). Whatever you need to download photos from your camera to a computer.

Uniform/Tools: See Materials list for class for uniform. Suggested but not required tools include 8" Crescent wrench, 12" Channel locks, Straight and Phillips head screwdriver (3-4" shank), tool bag.

Estimated Cost for Materials: \$ 40

Estimated Cost for Uniform/Tools: \$ 110.

Optional Resources: NA

Upon completion of the course, students should:

Course Objectives	Assessment of Objectives
The student should be able to:	
Demonstrate a basic competency of the flow path of various types of power plants.*	Assignments, Exams
Demonstrate the skills of discussing, analyzing, and interpreting the power industry.	Assignments, Exams
Identify the primary function of equipment used in a power plant.*	Quizzes, Assignments, Exams
Demonstrate an understanding of different types of plant systems and equipment.	Quizzes, Assignments, Exams
Demonstrate how a variety of systems interact within a power plant.*	Quizzes, Assignments, Exams
Demonstrate an understanding of the different types of chemicals used in a power plant.	Quizzes, Assignments, Exams

Aspects of the course objective assessments may be used in the university's assessment of student learning. If applicable, an asterisk (*) above indicates this assignment is used in the university assessment program.

COURSE ACTIVITIES

In this course students will:

(Please list the specific activities in the course)

- Participate in class discussions and activities.
- Participate in class and submit reports for evaluation.
- Complete outside project assignments and submit technical reports for evaluation.
- Integrate internet-searches into research assignments, homework, and reports.
- Participate in individual and group presentations.
- Compile a portfolio of work produced.
- Take examinations and quizzes.

EVALUATION - GRADES WILL BE BASED ON THE QUALITY AND COMPLETION OF THESE TASKS: (NOTE-Please indicate the course specific evaluations. List assignment(s) used in the university's assessment of student learning as separate line items and marked with an asterisk.)

Presentations	15%
Projects	10%
Exams	25%
Quizzes	25%
Final Exam	25%
Total	100%

OSUIT Grading Scale
A = 90%-100%
B = 80%-89%
C = 70%-79%
D = 60%-69%
F = 59% & below

*The student's grade for this assignment will be used in the university's assessment of student learning. A 70% competency or higher receives a Pass rating. This Pass/Fail rating is independent of the student's course grade.

Daily and/or weekly quizzes, small weekly assignments and similar type projects: Normal return time to student by next class meeting or no later than one (1) week.

Extensive assignments, large lab projects, extensive quizzes, exams and similar type projects: Normal return time to students in one (1) to two (2) weeks.

RECOMMENDED STUDENT COMPETENCIES/SKILLS

It will be helpful if the student has basic computer skills (i.e. saving files, downloading files, uploading files, organizing data). A basic understanding of MS Word, PowerPoint, and Excel. Be able to take a clear photo.

AUTHORIZED TOOLS

This is not talking about hand or power tools, but learning tools such as notes, textbooks, or internet access during activities. Will be determined by the instructor for each activity

LATE WORK

- **Planned Quizzes, Research/Homework, Labs/Project, Unit Exams and Final Exam:** Submitting your work early is always acceptable. If you know in advance that you will miss an exam, special arrangements may be possible for hardship circumstances. Make-up exams will be a different exam than the one given on exam day. *No late work will be accepted for full credit.*
- **In-class Quizzes** cannot be made-up.
- **Research/homework** submitted on the due day is considered to be on time. No late submissions are accepted for full credit.

TESTING

You are expected to take exams on the scheduled date. It is up to the instructor if a make-up exam will be given. Make-up exams will be a different exam than the one given on exam day.

OTHER LAB AND CLASSROOM POLICIES

No Show, No Call Policy

If you have a medical or personal problem that necessitates missing class, please contact me. It is the student's responsibility to show up to class prepared for the lesson or activity.

A "No Show, No Call" in the work place will cost you your job and damage your reputation in the industry. Therefore a soft skill that we enforce is that you have to notify the instructor if you are going to miss class. Notification must be made before the class or activity is scheduled to begin. Any "No Show, No Call" will result in a 3 point reduction in your final grade. Repeated "No Show, No Call" is grounds for administrative removal from this class.

The OSUIT Attendance Policy is the expectation of the class and will be followed.

SYLLABUS ATTACHMENT

View the Syllabus Attachment, which contains other important information, by visiting http://osuit.edu/center/student_syllabus_information

Course Schedule of Topics
Topic
Power Industry Culture
Boiler
Steam Turbine
Generator
Circwater System
Rankin Cycle
Brayton Cycle
Combined Cycle

This being an Intro class will mean that subjects taught will overlap and the schedule is subject to change at instructor discretion and access to industry resources.