

Basic Course Information

Semester:	Fall 2016	Instructor Name:	Raul F Delatorre
Course Title & #:	Generation Mechanic VII APGN 107	Email:	raul.delatorre@imperial.edu
CRN #:	10971	Webpage (optional):	
Classroom:	SP	Office #:	Drop 4 Maint. Supv. AAC
Class Dates:	Aug 15, 2016 -Dec 09, 2016	Office Hours:	5:00 AM – 2:30 PM
Class Days:	Wednesday	Office Phone #:	760-339-9678
Class Times:	3:00 PM - 7:30 PM	Emergency Contact:	
Units:	4		

Course Description

Introduction to bearings and seals. Identification of common bearings and seals. Emphasis on design and installation of seals, bearings and couplings. A study in the recognition and application of pumps. Emphasis on troubleshooting, repairing and installing pumps.

Student Learning Outcomes

Student will be able to recognize and deal appropriately with hazardous materials in the power industry including use of chemicals to treat cooling water.
 Student will apply troubleshooting techniques utilizing computerized and conventional alignment techniques as well as vibration data collection.

Course Objectives

The student will be able to: Develop the ability to identify bearing types and application.
 Student will be able to identify types of industrial seals and their application.
 Student will be able to explain different types of pumps and their application; identify pumping system and their components, repair specifications and replacement of shafts, impeller, bearings and seals.

Textbooks & Other Resources or Links

Power Plant Equipment
 Operation and maintenance Guide
 McGraw-Hill Professional Dec 16, 2011
 Federal OSHA, Cal OSHA website.

Course Requirements and Instructional Methods

Student class participation is essential, topics presented rely substantially in empirical practical applications based on standardized engineering concepts.

At every session instructor and student must compile a list of ten questions or activities related to session instruction, 30% of compilation, at instructor’s discretion will conform mid-term and final examinations.

Out of Class Assignments: The Department of Education policy states that one (1) credit hour is the amount of student work that reasonably approximates not less than one hour of class time and two (2) hours of out-of-class time per week over the span of a semester. WASC has adopted a similar requirement.

Course Grading Based on Course Objectives

[Required Information: Provide detailed information related to grading practices and grading scale, including values and totals. Consider adding final grade calculation, rubrics, late assignment policy, and other grading practices.]

Class participation (compilation of questions per class)	10% of grade
Class assignments, papers.	10% of grade
Using model and conventional methods to perform precision shaft alignment within specifications.	20% of grade
Mid-term examination.	20% of grade
Final examination.	40% of grade
Final grade.	100%

Attendance

- A student who fails to attend the first meeting of a class or does not complete the first mandatory activity of an online class will be dropped by the instructor as of the first official meeting of that class. Should readmission be desired, the student’s status will be the same as that of any other student who desires to add a class. It is the student’s responsibility to drop or officially withdraw from the class. See [General Catalog](#) for details.
- Regular attendance in all classes is expected of all students. A student whose continuous, unexcused absences exceed the number of hours the class is scheduled to meet per week may be dropped. For online courses, students who fail to complete required activities for two consecutive weeks may be considered to have excessive absences and may be dropped.
- Absences attributed to the representation of the college at officially approved events (conferences, contests, and field trips) will be counted as ‘excused’ absences.

Classroom Etiquette

- **Electronic Devices:** Cell phones and electronic devices must be turned off and put away during class, unless otherwise directed by the instructor.
- **Food and Drink** are prohibited in all classrooms. Water bottles with lids/caps are the only exception. Additional restrictions will apply in labs. Please comply as directed by the instructor.
- **Disruptive Students:** Students who disrupt or interfere with a class may be sent out of the room and told to meet with the Campus Disciplinary Officer before returning to continue with coursework. Disciplinary procedures will be followed as outlined in the [General Catalog](#).
- **Children in the classroom:** Due to college rules and state laws, no one who is not enrolled in the class may attend, including children.

Online Netiquette

- What is netiquette? Netiquette is internet manners, online etiquette, and digital etiquette all rolled into one word. Basically, netiquette is a set of rules for behaving properly online.
- Students are to comply with the following rules of netiquette: (1) identify yourself, (2) include a subject line, (3) avoid sarcasm, (4) respect others' opinions and privacy, (5) acknowledge and return messages promptly, (6) copy with caution, (7) do not spam or junk mail, (8) be concise, (9) use appropriate language, (10) use appropriate emoticons (emotional icons) to help convey meaning, and (11) use appropriate intensifiers to help convey meaning [do not use ALL CAPS or multiple exclamation marks (!!!)].

Academic Honesty

Academic honesty in the advancement of knowledge requires that all students and instructors respect the integrity of one another's work and recognize the important of acknowledging and safeguarding intellectual property.

There are many different forms of academic dishonesty. The following kinds of honesty violations and their definitions are not meant to be exhaustive. Rather, they are intended to serve as examples of unacceptable academic conduct.

- **Plagiarism** is taking and presenting as one's own the writings or ideas of others, without citing the source. You should understand the concept of plagiarism and keep it in mind when taking exams and preparing written materials. If you do not understand how to "cite a source" correctly, you must ask for help.
- **Cheating** is defined as fraud, deceit, or dishonesty in an academic assignment, or using or attempting to use materials, or assisting others in using materials that are prohibited or inappropriate in the context of the academic assignment in question.

Anyone caught cheating or plagiarizing will receive a zero (0) on the exam or assignment, and the instructor may report the incident to the Campus Disciplinary Officer, who may place related documentation in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the [General Catalog](#) for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to, the following: (a) plagiarism; (b) copying or attempting to copy from others during an examination or on an assignment; (c) communicating test

information with another person during an examination; (d) allowing others to do an assignment or portion of an assignment; (e) using a commercial term paper service.

Additional Student Services

Imperial Valley College offers various services in support of student success. The following are some of the services available for students. Please speak to your instructor about additional services which may be available.

- [Blackboard Support Site](#). The Blackboard Support Site provides a variety of support channels available to students 24 hours per day.
- [Learning Services](#). There are several learning labs on campus to assist students through the use of computers and tutors. Please consult your [Campus Map](#) for the [Math Lab](#); [Reading, Writing & Language Labs](#); and the [Study Skills Center](#).
- [Library Services](#). There is more to our library than just books. You have access to tutors in the [Study Skills Center](#), study rooms for small groups, and online access to a wealth of resources.

Disabled Student Programs and Services (DSPS)

Any student with a documented disability who may need educational accommodations should notify the instructor or the [Disabled Student Programs and Services](#) (DSP&S) office as soon as possible. The DSP&S office is located in Building 2100, telephone 760-355-6313. Please contact them if you feel you need to be evaluated for educational accommodations.

Student Counseling and Health Services

Students have counseling and health services available, provided by the pre-paid Student Health Fee.

- [Student Health Center](#). A Student Health Nurse is available on campus. In addition, Pioneers Memorial Healthcare District provide basic health services for students, such as first aid and care for minor illnesses. Contact the IVC [Student Health Center](#) at 760-355-6128 in Room 1536 for more information.
- [Mental Health Counseling Services](#). Short-term individual, couples, family, and group therapy are provided to currently enrolled students. Contact the IVC [Mental Health Counseling Services](#) at 760-355-6196 in Room 2109 for more information.

Student Rights and Responsibilities

Students have the right to experience a positive learning environment and to due process of law. For more information regarding student rights and responsibilities, please refer to the IVC [General Catalog](#).

Information Literacy

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. The IVC [Library Department](#) provides numerous [Information Literacy Tutorials](#) to assist students in this endeavor.

Anticipated Class Schedule/Calendar

Date	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
August 17	Introduction, APGN 105 to 106 brief review, APG 108 in perspective.	APGN 105 to 108 Course descriptions review.
August 24	APG 108 in perspective, continued, Generation Mechanic position progression. Paper: Excel spreadsheet identifying essential duties progression.	Paper due Aug 31.
August 31	Most common reference Standards organizations in the power industry review: OSHA, ANSI, AGMA, NFPA, SAE, API, IEEE, ASME, ISO.	Lecture.
September 7	Hazardous Materials in the power industry	Lecture.
September 14	Global Harmonization System review, MSD (Material Safety Data) structure.	Guest Speaker.
September 21	Basic arithmetic, geometry. Solids, liquids, and gases properties review.	Lecture
September 28	Industrial Equipment Maintenance Philosophies: Run to failure/Preventive Predictive	Lecture/Discussion
October 5	Mid-term exam	
October 12	Fundamentals of machinery vibration analysis review.	Lecture/hands on data collection ECGS.
October 19	Lubricants and oil tribology Thermography an industrial maintenance tool. Ultrasound an industrial maintenance tool. Industrial Maintenance Best Practices.	Lecture/Oil analysis reports review.
October 26	Torque transmission mechanisms Shaft Precision Alignment, precision tools use.	Lecture, hands on demonstration.
November 2	Industrial bearing application Static and dynamic seals.	Lecture
November 9	Centrifugal pump principle of operation and performance. Centrifugal pump components.	Lecture/Hands on pump disassembly-re-assembly.
November 16	Positive displacement pump types	Lecture
November 23	Pumping system essential components. High pressure hydraulic systems. Air compressor types, compressed air systems	Drop 5 Governor oil system hydraulic system review.
November 30	Case study: Drop 4 Unit 1 refurbishment project technical specifications review. Field trip to Drop 4	Refurbishment technical specifications review and work progress.
December 7	Final test	

*****Tentative, subject to change without prior notice*****