

Basic Course Information

Semester:	Fall 2018	Instructor Name:	Raul F Delatorre
Course Title & #:	Generation Mechanic VII APGN 107	Email:	raul.delatorre@imperial.edu
CRN #:	11434	Webpage :	
Classroom:	Hydro generation	Office #:	Hydro generation
Class Dates:	Aug 13, 18 to Dec 08, 18	Office Hours:	5:00 AM to 3:30 PM
Class Days:	Wednesday	Office Phone #:	760-339-9678
Class Times:	03:30 PM to 8:00 PM	Emergency Contact:	760-427-6452
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 Prerequisite(s) and/or Corequisite(s)

APGN 106 – Generation Mechanic VI.

Student Learning Outcomes

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.

Course Objectives

Develop Generation Mechanic abilities in preparation for confronting Journeyman level job classification responsibilities.

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

Class participation (compilation of questions per class)	10% of grade
Class assignments, papers.	10% of grade
Demonstrate conventional methods application to successfully 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, only students enrolled in the class may attend; children are not allowed.

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.

- **CANVAS LMS.** Canvas is Imperial Valley College's main Learning Management System. To log onto Canvas, use this link: [Canvas Student Login](#). The [Canvas Student Guides Site](#) provides a variety of support available to students 24 hours per day. Additionally, a 24/7 Canvas Support Hotline is available for students to use: 877-893-9853.
- **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 counseling services are available for currently enrolled students. Services are provided in a confidential, supportive, and culturally sensitive environment. Please contact the IVC Mental Health Counseling Services at 760-355-6310 or in the building 1536 for appointments or more information..

Veteran's Center

The mission of the [IVC Military and Veteran Success Center](#) is to provide a holistic approach to serving military/veteran students on three key areas: 1) Academics, 2) Health and Wellness, and 3) Camaraderie; to serve as a central hub that connects military/veteran students, as well as their families, to campus and community resources. Their goal is to ensure a seamless transition from military to civilian life. The Center is located in Building 600 (Office 624), telephone 760-355-6141.

Extended Opportunity Program and Services (EOPS)

The Extended Opportunity Program and Services (EOPS) offers services such as priority registration, personal/academic counseling, tutoring, book vouchers, and community referrals to qualifying low-income students. EOPS is composed of a group of professionals ready to assist you with the resolution of both academic and personal issues. Our staff is set up to understand the problems of our culturally diverse population and strives to meet student needs that are as diverse as our student population.

Also under the umbrella of EOPS our CARE (Cooperative Agency Resources for Education) Program for single parents is specifically designed to provide support services and assist with the resolution of issues that are particular to this population. Students that are single parents receiving TANF/Cash Aid assistance may qualify for our CARE program, for additional information on CARE please contact Lourdes Mercado, 760-355- 6448, lourdes.mercado@imperial.edu.

EOPS provides additional support and services that may identify with one of the following experiences:

- Current and former foster youth students that were in the foster care system at any point in their lives
- Students experiencing homelessness
- Formerly incarcerated students

To apply for EOPS and for additional information on EOPS services, please contact Alexis Ayala, 760-355-5713, alexis.ayala@imperial.edu.

Student Equity Program

- The Student Equity Program strives to improve Imperial Valley College's success outcomes, particularly for students who have been historically underrepresented and underserved. The college identifies strategies to monitor and address equity issues, making efforts to mitigate any disproportionate impact on student success and achievement. Our institutional data provides insight surrounding student populations who historically, are not fully represented. Student Equity addresses disparities and/or disproportionate impact in student success across disaggregated student equity groups including gender, ethnicity, disability status, financial need, Veterans, foster youth, homelessness, and formerly incarcerated students. The Student Equity Program provides direct supportive services to empower students experiencing insecurities related to food, housing, transportation, textbooks, and shower access. We recognize that students who struggle meeting their basic needs are also at an academic and economic disadvantage, creating barriers to academic success and wellness. We strive to remove barriers that affect IVC students' access to education, degree and certificate completion, successful completion of developmental math and English courses, and the ability to transfer to a university. Contact: 760.355.5736 or 760.355.5733 Building 100.

- The Student Equity Program also houses IVC’s Homeless Liaison, who provides direct services, campus, and community referrals to students experiencing homelessness as defined by the McKinney-Vento Act. Contact: 760.355.5736 Building 100.

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 15	Introduction, APGN 105 to 106 brief review, APG 108 in perspective.	APGN 105 to 108 Course descriptions review.
August 22	APG 108 in perspective, continued, Generation Mechanic position progression. Paper: Excel spreadsheet identifying essential duties progression.	Paper due Aug 29.
August 29	Most common reference Standards organizations in the power industry review: OSHA, ANSI, AGMA, NFPA, SAE, API, IEEE, ASME, ISO.	Lecture.
September 5	Hazardous Materials in the power industry	Lecture.
September 12	Global Harmonization System review, MSD (Material Safety Data) structure.	Guest Speaker.
September 19	Basic arithmetic, geometry. Solids, liquids, and gases properties review.	Lecture
September 26	Industrial Equipment Maintenance Philosophies: Run to failure, Preventive, Predictive and proactive.	Lecture/Discussion
October 3	Mid-term exam	
October 10	Fundamentals of machinery vibration analysis review.	Lecture/hands on data collection ECGS.
October 17	Lubricants and oil tribology Thermography an industrial maintenance tool. Ultrasound an industrial maintenance tool. Industrial Maintenance Best Practices.	Lecture/Oil analysis reports review.
October 24	Torque transmission mechanisms Shaft Precision Alignment, precision tools use.	Lecture, hands on demonstration.
October 31	Industrial bearing application Static and dynamic seals.	Lecture

November 7	Centrifugal pump principle of operation and performance. Centrifugal pump components.	Lecture/Hands on pump disassembly-re-assembly.
November 14	Positive displacement pump types	Lecture
November 21	Pumping system essential components. High pressure hydraulic systems. Air compressor types, compressed air systems	Drop 4 Governor oil system hydraulic system review.
November 28	Case study: Drop 4 Unit 1 refurbishment project technical specifications review. Field trip to Drop 4	Refurbishment technical specifications review and work progress to date.
December 5	Final test	

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