

Basic Course Information

Semester	Fall 2018	Instructor	Jesus Rosas
Course Title & #	APLN 105	Email	JARosas@IID.com
CRN #	CCRN #11437	Website	
Room	EC Executive Lab	Office	Imperial Irrigation District
Class Dates	Aug 14 - Dec 4, 2018	Office Hours	
Class Days	Tuesdays	Phone #	Cell (760) 455-2619
Class Times	4:30 P.M. to 8:30 P.M.	Contact for absence or emergency	Jesus Rosas 760-455-2619

Course Description

Comprehensive review in AC theory and advanced training in distribution line maintenance (i.e., transmission structures, transmission line installation, climbing steel poles and towers, working on de-energized lines, rigging for high voltage work, hot transmission line repair, using temporary structures, and usage of gloves and hot sticks). (nontransferable, AA/AS degree only)

Student Learning Outcomes

Upon course completion, the successful student will have acquired new skills, knowledge, and or attitudes as demonstrated by being able to:

1. Recognize and deal appropriately with hazardous materials in the power utility industry. (ILO2, ILO3)
2. Identify, resolve, and troubleshoot power loss and outages. (ILO2, ILO3)
3. Understand the role of insulators and replacement techniques. (ILO2, ILO3)
4. Implement and maintain care of “hot stick” tools and the use of gloving techniques. (ILO2, ILO3)

Course Objectives

Upon satisfactory completion of the course, students will be able to:

1. Practice standard safety procedures appropriate to the power utility industry.
2. Recognize and deal appropriately with hazardous materials in the power utility industry.
3. Identify and resolve, through given troubleshooting techniques, power loss and outages.
4. Implement and maintain care of “hot stick” tools.
5. Implement and maintain care of gloving techniques.
6. Replace insulators and other components by using gloves and hot sticks.
7. Identify and demonstrate practical uses of other safety equipment (i.e. blankets).

Textbooks & Other Resources or Links

1. Electrical Lineman, Training Committee (2009). *Imperial Irrigation District’s Lineman Apprenticeship Training Handbook* Imperial, CA Imperial Irrigation District. ISBN:-
2. Shoemaker, Thomas M. and James E. Mack (2012). *The Lineman’s and Cableman’s Handbook* (12th/e). New York McGraw-Hill. ISBN: 978007174580
3. Bertrand, Forster & Schultz (2000). *Basic Mathematics for Electricity and Electronics* (8th/e). The McGraw-Hill Companies. ISBN 0028050223

Course Grading Based on Course Objectives

The course grade is based on total points accumulated during the semester. There is a maximum of 450 points. Very limited extra credit points may be available, either through some class participation activity, group work

or perfect attendance. Failing to turn in regular assignments will stop you from being able to earn extra credit points and late assignments will have points subtracted.

Final grades are calculated as follows:

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Percentage	Grade	Points	Grade
90-100%	A	585-650	A
80-89%	B	520-584	B
70-79%	C	455-519	C
60-69%	D	390-454	D
Below 60%	F	0-389	F

Grading Rubrics: In addition to the percentages and points listed above the following grading rubric (standards expected) will be used when grading student assignments. The description that best fits your work will be the assigned grade.

Grade	Rubric or Standard Expected
A	Focused and clearly organized. Contains advanced critical thinking and analysis. Convincing evidence is provided to support conclusions. Clearly meets or exceeds assignment requirements.
B	Generally focused with some development of ideas, but may be simplistic or repetitive. Evidence is provided to support conclusions. Occasional grammatical errors. Meets assignment requirements, but does not exceed.
C	Unfocused, underdeveloped, or rambling, but has some coherence. Minimal evidence is provided to support conclusions. Several grammatical errors. Meets minimum assignment requirements.
D	Unfocused, underdeveloped, and/or rambling. Limited evidence is used to support conclusions. Serious grammatical errors that impede overall understanding. Does not address the assignment requirements
F	Unfocused, underdeveloped, and/or rambling. Incomplete or too brief. No evidence is used to support conclusions. Serious grammatical errors that block overall understanding. Does not meet assignment requirements. Minimal to no student effort.

Late assignments will not be accepted. Student will hand in assignment the week it is due.

Students will not be allowed to take missed, quizzes, mid-term exam or final exam.

Course Assignments and Instructional Methods

Assignments are designed to elicit your demonstration of critical thinking, understanding and application of the course concepts, and your proficiency in the subject matter.

Required Activities or Assignments

1. Midterm (1) 100 each
2. Exam (1) 200 each
3. Homework (15) 10 each
4. Participation (possible extra credit points) TBD

Teaching Methods: During this class you will have opportunity to participate in a variety of presentation and teaching methods. Lectures, including material not covered in your readings, class and group discussions requiring your active participation, student oral presentations, field trips will supplement your required readings.

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. Out of class assignments for this course includes reading assignments, study time for exams/quizzes, and completion of required course assignments. Students should actively read the assignment prior to class, bring any questions to class, and take careful notes during class.

Attendance

- A student who fails to attend the first meeting of a 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.
- 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. 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.
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Academic Dishonesty

- Plagiarism is to take and present 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 clearly understand how to correctly 'cite a source', 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, or assisting others in using materials, which are prohibited or inappropriate in the context of the academic assignment in question. Anyone caught cheating will receive a zero (0) on the exam or assignment, the incident will be reported to Apprenticeship program coordinator, and a document may be placed in a file. Repeated acts of cheating may result in an F in the course and/or disciplinary action. Please refer to the General School Catalog for more information on academic dishonesty or other misconduct. Acts of cheating include, but are not limited to the following:
 - Plagiarism
 - Copying or attempting to copy from others during an examination or on an assignment;
 - Communicating test information with another person during an examination;
 - Allowing others to do an assignment or portion of an assignment
 - Use of a commercial term paper service

Classroom Etiquette

- Students are expected to be actively involved the learning process so failure is not a good choice; apply yourself, study, attend class regularly, ask for help if needed, and always do your best.
- Students will attend class meetings regularly. After second absence the apprenticeship coordinator for IID will be notified.
- Homework: The purpose of homework is to provide students with additional practice to reinforce concepts and to get ready for class. For each chapter in the text book you will answer questions at the end of the chapter each homework assignment is due the following scheduled class meeting.
- Electronic Devices: Cell phones and electronic devices must be turned off and put away during class. These disruptions are considered disrespectful behavior to others in the class and the instructor.
- Food and drink are prohibited in all classrooms. Water bottles with lids/caps are the only exception.

- **Disruptive Students:** Most of you are here to learn, but some students are not as serious. To preserve a productive learning environment, students who disrupt or interfere with a class may be sent out of the room and told to meet with the apprenticeship coordinator, before returning to continue with coursework. Disciplinary procedures will be followed as outlined in IID policy and Procedure 4350.

Additional Help

1. You are allowed to ask any journeyman questions pertaining to your homework or drawings or procedures which may be discussed in class.
2. **Library Services:** All technical manuals pertaining to the equipment covered in class Are in #1 control-room.

Disabled Student Programs and Services (DSPS)

Non-applicable

Student Counseling and Health Services

Refer to IID Policy and Procedures

Student Rights and Responsibilities

Students have the right to experience a positive learning environment; students who disrupt that environment can be asked to leave the class. Faculty and students also have the right of due process. For further information regarding student rights and responsibilities please refer to the IVC General Catalog available online at www.imperial.edu

Class Schedule

Below is a list of weekly activities and assignments that will assist you in meeting the course objectives and the Student Learning Outcomes. Please review carefully and often as the list may include reading assignments, exams, field trips, projects, presentations, etc.

DATE	SUBJECT	Homework	ASSIGNMENT DUE
Week 1 08/14/2018	Safety in Overhead Line Maintenance	Chapter Questions	08/21/2018
Week 2 08/21/2018	Distribution Line Installation & Removal Part 1	Chapter Questions	08/28/2018
Week 3 08/28/2018	Distribution Line Installation & Removal Part 2	Chapter Questions	09/04/2018
Week 4 09/04/2018	Distribution Line Repair – Gloves	Chapter Questions	09/11/2018

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Week 5 09/11/2018	Distribution Line Repair – Hot Sticks (Parts 1 and 2)	Chapter Questions	09/18/2018
Week 6 09/18/2018	Distribution Line Replacement (Parts 1 and 2)	Chapter Questions	09/25/2018
Week 7 09/25/2018	Pole Top Transformer Replacement	Chapter Questions	10/02/2018
Week 8 10/02/2018	Transmission Line Installation, Working on De-Energized Transmission Lines, MID-TERM	Chapter Questions	10/9/2018
Week 9 10/09/2018	Transmission Line Repair – Hot Sticks	Chapter Questions	10/16/2018
Week 10 10/16/2018	Transmission Structures	Chapter Questions	10/23/2018
Week 11 10/23/2018	Fuses, Switches, Regulators	Chapter Questions	10/30/2018
Week 12 10/30/2018	Working on Steel Poles and Towers	Chapter Questions	11/06/2018
Week 13 11/06/2018	Capacitance	Chapter Questions	11/13/2018
Week 14 11/13/2018	Series AC Circuits, Parallel AC Circuits	Chapter Questions	11/20/2018
11/20/2018	NO SCHOOL	THANKSGIVING	BREAK
Week 15 11/27/2018	Alternating Current Power, Three-Phase Systems	Chapter Questions	12/4/2018
Week 16 12/04/2018	Basic Mathematics for Electricity and Electronics, Final Exam		