

## Imperial Valley College Course Syllabus – SCADA/Telecomm Technician VI – APSC 106

### Basic Course Information

Semester	Fall 2014	Instructor Name	Hector Mendez
Course Title & #	SCADA/Telecomm Technician VI – APSC 106	Email	hmendez@iid.com
CRN #	10883	Webpage (optional)	
Room	Water Control Conference	Office	
Class Dates	Aug 18 – Dec 13 2014	Office Hours	3:00 pm – 4:00 pm Wednesday
Class Days	Wednesdays	Office Phone #	760-339-9073
Class Times	4:00 pm – 8:30 pm	Office contact if student will be out or emergency	760-427-5601
Units	4 units		

### 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 the safe use 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. understand T1 multiplexers theory and principles of operation, test equipment, and diagnostic tools. (ILO2, ILO3)
2. identify the different telephony systems, test equipment, and diagnostic tools. (ILO2, ILO3)
3. understand fiber infrastructure wavelengths, types of fiber cable, proper handling, fiber splicing, test equipment, and diagnostic tools. (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 the appropriate 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

Jackson, Ray A. NEET Series, Module 2 – Introduction to Alternating Current and Transformers, 2003 Edition

Kuphaldt, Tony R. Lessons In Electric Circuits, Volume II – AC, Sixth Edition, 2007

Powell, Ray. Introduction to Electric Circuits, 1995 Arnold Publishing

### Course Requirements and Instructional Methods

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**

The student's grade will depend on the following areas:

Special Project (Oral/Written) 20%	= 100 points
Homework 20%	= 100 points
Mid-term 30%	= 150 points
Final Exam 30%	= 150 points
Total 100%	= 500 points

Grades are based on the standard scale of: A = 100-90% B = 89-80% C = 79-70% D = 69-60% F = 59% and below

### **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.
- 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.

### **Academic Honesty**

- 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 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 School 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 Help – Discretionary Section and Language**

- Office Hours available for additional help.

#### **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, 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. We now also have a fulltime mental health counselor. For information see <http://www.imperial.edu/students/student-health-center/>. The IVC Student Health Center is located in the Health Science building in Room 2109, telephone 760-355-6310.

#### **Student Rights and Responsibilities**

Students have the right to experience a positive learning environment and due process. For further information regarding student rights and responsibilities, please refer to the IVC General Catalog available online at [http://www.imperial.edu/index.php?option=com\\_docman&task=doc\\_download&gid=4516&Itemid=762](http://www.imperial.edu/index.php?option=com_docman&task=doc_download&gid=4516&Itemid=762)

#### **Information Literacy**

Imperial Valley College is dedicated to helping students skillfully discover, evaluate, and use information from all sources. Students can access tutorials at <http://www.imperial.edu/courses-and-programs/divisions/arts-and-letters/library-department/info-lit-tutorials/>

## Imperial Valley College Course Syllabus – SCADA/Telecomm Technician VI – APSC 106

Anticipated Class Schedule / Calendar		
Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 August 20	Syllabus & Introduction Historical Review	Handouts Video
Week 2 August 27	Basic AC Theory and Complex Numbers	Kuphaldt, Chpt 1 and 2 Jackson, Chapter 1
Week 3 September 3	Reactance and Impedance - Inductive	Kuphaldt, Chapter 3 Jackson, Chapter 2
Week 4 September 10	Reactance and Impedance - Capacitive	Kuphaldt, Chapter 4 Jackson, Chapter 3
Week 5 September 17	Reactance and Impedance – R, L, and C	Kuphaldt, Chapter 5 Jackson, Chapter 4
Week 6 September 24	Resonance	Kuphaldt, Chapter 6 Powell, Chapter 6
Week 7 October 1	Mixed-Frequency AC Signals Class Project	Kuphaldt, Chapter 7
Week 8 October 8	Filters Class Project	Kuphaldt, Chapter 8
Week 9 October 15	Midterm Exam	
Week 10 October 22	Transformers Class Project	Kuphaldt, Chapter 9 Jackson, Chapter 5
Week 11 October 29	Polyphase AC Circuits	Kuphaldt, Chapter 10
Week 12 November 5	Power Factor	Kuphaldt, Chapter 11
Week 13 November 12	AC Metering Circuits	Kuphaldt, Chapter 12
Week 14 November 19	AC Motors	Kuphaldt, Chapter 13
Week 15 November 26	THANKSGIVING HOLIDAY – CAMPUS CLOSED	
Week 16 December 3	Final Review	
Week 17 December 10	Final Exam	