

Imperial Valley College Course Syllabus – SCADA/Telecomm Technician VIII – APSC 108

Basic Course Information

Semester	Fall 2015	Instructor Name	Hector Mendez
Course Title & #	SCADA/Telecomm Technician VIII – APSC 108	Email	hmendez@iid.com
CRN #	10869	Webpage (optional)	
Room	Water Control Conference	Office	
Class Dates	Aug 17 – Dec 11 2015	Office Hours	3:00 pm – 4:00 pm Wednesday
Class Days	Wednesday	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

Instruction in advance installation, configuration, testing, maintaining, troubleshooting and repairing the District's SCADA, data-communication, revenue meter, and associated power plant systems. (Nontransferable, nondegree applicable)

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 microwave radio networks, frequency spectrum, antenna types, wave propagation, network management systems, test equipment, and diagnostic tools. (ILO2, ILO3)
2. identify other safety practices and procedures such as requesting a line, protection communication circuit, meter outage, plus PPE requirements. (ILO2, ILO3)
3. understand electronic security such as video surveillance, cameras and DVR's, and bandwidth requirements. (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. Develop and conduct safety tailgate sessions.
4. Possess a working knowledge of industrial controls and telecommunication systems.
5. Review and interpret circuit maps, blue prints and schematics.
6. Install and maintain disaster recovery systems
7. Successfully pass the NEC Journeyman exam.

Textbooks & Other Resources or Links

Callahan, Michael and Bill Wusinich (2014). Electrical Systems: Based on the 2014 NEC, American Technical Publishers Inc.

Shoemaker, Thomas M., and James E. Mack (2007). The Lineman's and Cableman's Handbook (11th/e). New York, McGraw-Hill.

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

The instructor can add the information pertinent to his or her class here. Some suggested language:

- Blackboard support center: <http://bbcrm.edusupportcenter.com/ics/support/default.asp?deptID=8543>
- Learning Labs: There are several ‘labs’ on campus to assist you through the use of computers, tutors, or a combination. Please consult your college map for the Math Lab, Reading & Writing Lab, and Study Skills Center (library). Please speak to the instructor about labs unique to your specific program.
- 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, 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

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 VIII – APSC 108

Anticipated Class Schedule / Calendar		
Date or Week	Activity, Assignment, and/or Topic	Pages/ Due Dates/Tests
Week 1 August 20	Syllabus & Introduction Developing & conducting tailgate sessions IID's procedures for hazardous waste	Handouts
Week 2 August 27	Circuit maps Line Conductors	Section 14 – Lineman's Handbook
Week 3 September 2	Microwave systems Troubleshooting microwave systems	Section 3.20– Lineman's Handbook
Week 4 September 9	Radio Frequency	Handouts
Week 5 September 16	Storage Batteries Care and Maintenance	Handouts
Week 6 September 23	IID Communication Systems Industrial protocols	Handouts
Week 7 September 30	IID Communication Systems Network protocols Emergency generators and disaster recovery	Handouts
Week 8 October 7	Mid-term Exam Intro to NEC-Review	
Week 9 October 14	Electrical shock	Handouts
Week 10 October 21	IID construction telecomm standards Construction standards	Handouts
Week 11 October 28	Temporary grounding Grounding –Review Wiring Methods	Chapter 6&7 – Electrical Systems
Week 12 November 4	Resistance and wire sizes Trade test 6&7 Wiring Materials	Chapters 12 & 13 BMEE Chapter 8&9 – Electrical Systems
Week 13 November 11	Title VIII – Telecomm Regulations Trade test 8&9 Equipment for General Use	Chapter 10 – Electrical Systems
Week 14 November 18	Trade test 10 Motors, Generators, Pumps. Etc	Chapter 11 – Electrical Systems
Week 15 November 26	THANKSGIVING HOLIDAY – CAMPUS CLOSED	
Week 16 December 2	Trade test 11 Review for Final Exam	
Week 17 December 9	Final Exam	