

Imperial Valley College
COURSE SYLLABUS FOR:
TELECOMMUNICATIONS TECH VII (APTL 107)
4.0 Credit Units. CRN 10396, Fall 2012
Javier Jimenez Instructor.
Javier.Jimenez@imperial.edu

Course Description:

Prerequisite: APTL 106 – Telecommunication Technician VI. Instruction in advanced 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:

1. The student will be able to Understand SONET (Synchronous Optical NETWORKS) basic Theory, bandwidth, Network Management Systems and test equipment and diagnostic tools.
2. The student will be able to identify the different intertie metering equipment and its Theory, classes and test equipment and diagnostic tools.
3. The student will be able to get to know the voice radio frequency RF Theory, Antenna Types, radio frequency safety and test equipment and diagnostic tools.

Lecture Course Goals And Objectives:

Upon successful completion of this course, the student will be able to:

1. Know the basic theory, bandwidth requirements of a Synchronous Optical Network.
2. Learn about the Network Management Systems.
3. Acquired the theory and safety plus the intertie meter classes and real time meter data applications.
4. Get to know the theory and antenna types of Voice Radio Systems.

Class Hours:

Wednesdays (Lecture/Discussion) from 04:00 p.m. to 08:30 p.m. at IID Bell Building.

Important Dates:

Class Start Date: 22-AUG-12 (20-AUG-12).

Class End Date: 05-DEC-12 (07-DEC-12).

Last day to add class: 01-SEP-12.

Last day to drop with a refund: 01-SEP-12.

Last day to drop without a "W": 03-SEP-12.

Last day to drop with a "W": 10-NOV-12.

Detail Course Schedule:

1. Basic Theory of SONET (Synchronous Optical Networks) (22-AUG-12)
2. Bandwidth requirements and Channel Provisioning Types of Redundancy (29-AUG-12)
3. Network Management Systems (05-SEP-12)
4. SONET test equipment and diagnostic tools, onboard diagnostic software (12-SEP-12)
5. Intertie meter theory and safety (19-SEP-12)
6. Meter classes/forms – types of equipment, meter configuration and installation (26-SEP-12)
7. Real-time meter data applications (03-OCT-12)
8. Mid-Term Examination (10-OCT-12)
9. Intertie metering protocol test set and meter configuration software (17-OCT-12)

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10. Intertie metering WECO-20 meter test board (24-OCT-12)
11. Intertie metering PowerMate meter test set (31-NOV-12)
12. Voice radio systems RF theory and frequency ranges (07-NOV-12)
13. Voice radio antenna types and Voltage Standing Wave Ratio (VSWR) (14-NOV-12)
14. Voice radio Network Management Systems (NMS) (21-NOV-12)
15. Radio frequency safety, RF monitor, power meter and spectrum analyzer (28-NOV-12)
16. Final Examination (05-DEC-12)

Discussion Of Assignments And Instructional Methods:

Discussion of assignments and instructional methods will be a combination of all methods of instruction, which can be classified as telling, lecturing, or discussing; showing or demonstrating.

Statement Of Grading Procedures:

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|---------------------------|-----|
| 1. Homework, Assignments: | 10% |
| 2. Mid-Term Exam: | 45% |
| 4. Final Exam: | 45% |

Attendance Policy:

Students are expected to attend class meetings regularly.

An absence is arriving more than 20 minutes after the beginning of the class, or leaving more than 20 minutes before the end of the class also if you leave the room for more than 20 minutes for whatever reason, you are absent.

A tardy is arriving within the first 20 minutes after the beginning of the class or leaving within the last 20 minutes before the end of the class, if you need to use the restroom, you are expected to return within a reasonable time period. A student who is tardy three times may be considered as having been absent one class. If a student reaches the third absence after the deadline to drop the class with a "W", his/her grade will be reduced one letter grade for each subsequent absence.

Textbook:

Optical Communications Essentials.
Enterprise LAN meter manual and T-BERD manual.
Handbook for Electricity Metering.
Electronic Communications Systems.
The Trunk Radio and Enhanced PMR Radio Handbook.

Required Materials:

Scientific Calculator CASIO fx-115MS or equivalent.
All other materials with the exception of the text book and calculator will be supplied.

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Accommodations For Disabilities:

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.

Policy On Plagiarism And Cheating:

If a student is found cheating in a test or assignment, he/she will receive a grade of zero for the test or assignment.