



Course Syllabus

Course #: CIT 1330 Course Name: Introduction to Telecommunications

Division: Business Technologies

Class Days:

Class Time:

Location: Classroom: B 304

Laboratory: B 304

Credit Hours: 3

Contact Hours: 4

Lab Hours: 2

Lecture Hours: 2

Instructor:

Office Location:

Phone:

Email Address:

Office Hours:

Division Office/Location:

Division Fax:

Full-time Contact Person:

Phone(s):

Course Description:

This course is broken down into two major topics: Telecommunications and Infrastructure Medias. The Telecommunication portion would help the student prepare to pass the BICSI Installer, Level 1 certification. The course covers a wide range of topics that affect the telecommunication industry from the history of divestiture and deregulation to the development of new standards, communications media, topologies, grounding & bonding, firestopping, and documentation.

In the Infrastructure Media portion the student will study basic components of fiber optic with emphasis on LAN installation. The course introduces students to the characteristics of fiber optic cabling including construction, performance, installation specifications, connectors, splices, and design guidelines. Hands on activities include terminating, splicing, and testing fiber optic cable including introducing students to the tools used in the fiber optic industry. Also included in this course is wireless (RF) with major emphasis on implementing a wireless solution in the LAN.

Prerequisite(s):

CIT 1240 Microcomputers 1

Corequisite(s):

None

Entry Level Skills and Knowledge:

Knowledge of Microcomputers Hardware and Operating System Software

Knowledge of the Internet-particularly the WWW

The student should have successfully completed ENG 1050, MTH 1310, and MTH 1410, or possess these academic skills—college-level reading comprehension, algebraic math, and binary and hexadecimal numbering system.

Required Texts, Supplies and Equipment:

Texts

Guide to Network Cabling Fundamentals by Verity (ISBN 0619120126)

Fiber Optic Technician Manual, Third Edition by Hayes (ISBN 1401896995)

Supplies

- Adequate supply of RJ45 cable ends (solid core)
- Wire Cutters
- Small Screwdriver
- Necessary storage media (preferably usb)
- Ruler – 6” is adequate
- Safety Glasses (Starting Fall, 2005, in accordance with NECA 301-2004, “Always wear safety glasses with side shields. Always ensure that safety eyewear complies with relevant requirements including OSHA.”)

Grading:

92 – 100 = A

84 - 91 = B

74 - 83 = C

65 - 73 = D

0 - 64 = F

Learning Outcomes:

General Education

- Communicate effectively.
- Evaluate arguments in a logical fashion.

Technical Education

Systems & Networking Support

- Identify, compare, and use basic data communication terms, basic tools of data communications, and elements necessary for connectivity between networks and computer systems.
- Effectively configure and troubleshoot computer/networking hardware and software.
- Configure, implement, and troubleshoot a network.
- Navigate and/or configure multiple operating system platforms.

Learning Outcomes: (Continued)

Course Specific

- Become familiar with common voice and data communication keywords
- Understand the term CONNECTIVITY
- Learn to use the basic voice/data communication tools by building cables, configuring data communication software, and debugging simplistic data communication problems
- Demonstrate the proper use of fiber optic tools
- Demonstrate ability to terminate and splice fiber optic cable
- Demonstrate the knowledge of the terminology used in the fiber optic industry
- Demonstrate knowledge of the types of fiber optic cabling and its proper usage
- Demonstrate safety in handling fiber optic cable
- Demonstrate the ability to calculate the loss budget
- Demonstrate the ability to test fiber
- Demonstrate the understanding of the standards used in the wiring industry.
- Demonstrate knowledge of proper installation (pulling the fo cable) techniques
- Prepare for CFOT certification
- Wireless LAN devices & standards
- How wireless works
- IEEE 802.11
- Site surveys
- Security and Vulnerabilities

Assessment of Student Learning:

This course may include a project that is one of several that will be used by faculty to assess student academic performance in the program. A panel of faculty will review all (projects or whatever assessment activity you are doing), then assess and summarize the academic performance of students at this point in the program. The results of this assessment will be shared among the department faculty, used to identify needed changes or improvements, and submitted to the Student Academic Assessment Committee as part of the College's overall student academic assessment effort.

Assessment Project and Measurement in course (if any):

None for this class.

Plan of Work:

Class	Topic	T-Com	Media
1 (T)	Introduction	Ch 1	
2 (R)	Introduction & FO Networks		FOTM 1, 3, 2
3 (T)	Grounding & Bonding	Ch 2	
4 (R)	Basics of FO Cabling		FOTM 4,5
5 (T)	Cables and Cable Infrastructures	Ch 3	
6 (R)	FO Installation and Installation Tools Demo ST connector installation Demo Safety within the lab	Ch 3	FOTM 10, 11,&6
7 (T)	Test (T-Comm Ch 1,2,3) Chapter 2 Project		
8 (R)	Lab ST terminations		
9 (T)	Cable and Cable Structures	Ch 4	
10 (R)	Cont Chapter 6 SC demonstration		FOTM 6
11 (T)	Project 4-6		
12 (R)	Lab SC terminations		
13 (T)	Project 4-6 Presentations Telephony	Ch 5	
14 (R)	FO jobs Guidelines for Designing FO installs Cable Budget – calculation loss		FOTM 8,9,10, & 11
15 (T)	Telephony	Ch 5, 6	
16 (R)	Testing – Light Source and Power Meter Lab – Testing (w/o splice)		FOTM 17 & 10
17 (T)	Telephony	Ch 5, 6	
18 (R)	Splicing Testing with mechanical splice		FOTM 12 & 17
19 (T)	Telephony Lab		
20 (R)	Documentation Splicing & Testing Labs Cable Pulling, FO Repair		FOTM 13,15, & 16
21 (T)	Test (T-Comm Ch 4,5,6)		
22 (R)	Final Exam/CFOT/ Intro to RF		Test
23 (T)	Firestopping & Fire Prevention	Ch 7	
24 (R)	Keys	Ch 9	
25 (T)	RF ... How Wireless works		
26 (R)	Test (T-Comm Ch 7,8)		
27 (T)	Lab Activities		
28 (R)	RF		
29 (T)	Lab Activities		
30 (R)	RF		
31 (T)	FINAL EXAM		Final Exam

Course Requirements:

The following elements will be used for calculating final grades for this course:

T-Comm Tests & Labs (3 tests)	45%
FO & RF tests	45%
Instructor Evaluation	10%

Instructor evaluation is based upon class participation and **preparedness (includes reading assignments before class)**, quality of questions, and individualized and group class activities.

Note: Your final grade is an accumulation of points. The percentages listed above are estimates of each component's weight in determining your final grade.

Assignments/Projects:

As assigned by instructor.

Course Requirement Policies:

Students are required to take tests with the rest of the class. Any student missing a test must **make up the test in advance** or notify the instructor in advance. It will then be at the instructor's discretion whether a make-up test will be permitted. Should a make-up test be permitted, the student has six (6) calendar days to complete the test. **NO STUDENT WILL BE ALLOWED TO MAKE UP TWO (2) TESTS.**

General/Miscellaneous:

This syllabus is for student and instructional planning. It will be followed as closely as possible. Any student having a need for special accommodations is encouraged to make his/her needs known to the instructor during the first class of the semester. Cheating or plagiarism may be cause for an individual to be dismissed from the class and/or the institution. See the Student Handbook for additional information regarding college policy.

One strict word of warning. Fiber optic cable and the tools associated with its termination and splicing can be hazardous to your health and to the health of your classmates. It is most important that FO waste be treated with special care and consideration and that there be NO horseplay during the labs. It is the student's responsibility to respect the students at Terra Community College and the property of Terra Community College. Any violation will result in immediate expulsion from the class.

Policies

Course Withdrawing: If for any reason you need to withdraw from this course, be certain that you do so according to College procedure. It is your responsibility to know and follow this procedure. If you simply stop coming to class, without officially withdrawing from the course, your grade is an automatic “F.” Please follow official College procedure for withdrawing from this or any course.

College Academic Policies are located in the College Catalog. A copy of the current catalog may be picked up in any of the division offices or admissions. The list of college policies is also available online at <https://www.terra.edu/register/Collegecat/policies.asp>.

Support Services: The College offers a number of support services to assist in your success in this course and all courses. Among these services are the Writing & Math Center in B105, the Office of Learning Support Services, which coordinates the campus disability services and tutoring programs, the computer labs, and the computers in the atriums.

Any student who feels he/she may need an accommodation based on the documentation of a disability should contact the Office of Learning Support Services privately to discuss his/her specific issues. Please contact the OLSS at (419) 334-8400 X 2208 or visit 100 Roy Klay Hall (Building A) to coordinate reasonable accommodations.

If you have a documented disability and are receiving academic accommodations through the Office of Learning Support Services, please schedule a meeting with your instructor in a timely manner so that we may discuss how these services will be arranged.

Tutoring services are available to students beginning the second week of every quarter. Students requesting tutoring services should obtain a tutor request form from the OLSS in 100 Roy Klay Hall (Building A) or online at the Terra website. Please note that instructor verification and acceptance of the Student Learner Agreement is necessary for all tutoring requests. All requests should be submitted to 100 Roy Klay Hall (Building A).