IST 166 Network

Fundamentals Course

Syllabus

COURSE TITLE:	**Network Fundamentals**	**PREFIX & NUMBER:**	**IST 166**
LECTURE:	**3.0**	**LAB HOURS:**	**0.0**

CATALOG DESCRIPTION:

This course is a study of local area networking concepts through discussions on connectivity, communications, and other networking fundamentals the course is designed to prepare the student to be successful in completing industry network fundamental certification exams.
Prerequisites: None

TEXTBOOKS AND OTHER REQUIRED MATERIALS:

Andrews, Dean, West Network+ Guide to Networking, 9th edition, Course Technologies

GRADING SYSTEM AND POLICY: **METHOD OF EVALUATION:**	**Final grades will be awarded according to the following grading scale:**
Chapter quizzes…..……...…….30%	91 – 100 = A
Labs……....40%	81 – 90 = B
Final Exam ....……30%	71 – 80 = C
	65 – 70 = D
Total 100%	Below 65 = F

Safety:

For your safety, if you have a medical condition that results in seizures, blackouts, etc. (e.g. from epilepsy, diabetes_ please inform your instructor. This information will be kept confidential. If you wish to seek accommodations due to a disability, please contact Services for Students with Disabilities, Building 410, Room 210.

Classroom Civility:

Student learning is a top priority. Students are expected to come to class prepared and attentive. To ensure a productive learning environment, students must show courtesy and respect to their instructors and fellow students. Instructors will not tolerate uncivil or disruptive behavior. The instructor may dismiss a disruptive student from the class for the remainder of the class period. If inappropriate behavior persists, the instructor may refer the student to the Vice President for Student Services for disciplinary evaluation.

ELECTRONIC COMMUNICATION DEVICES IN CLASSROOMS:

To minimize classroom disruption and protect the integrity of test-taking situations, activated electronic communication devices such as pagers and cell phones are generally not permitted in classrooms at Trident Technical College. The only exception to this policy will be for on-call emergency personnel (police, fire, EMS), who will be required to notify their classroom instructor of their need for such devices and provide documentation verifying their occupation. However, on-call emergency personnel may not leave a testing situation; communicate by electronic means and return to complete an examination. In these cases, instructors should make arrangements for re-testing. Use of electronic devices for note taking is at the discretion of the instructor.

ACCOMMODATIONS FOR STUDENTS WITH SPECIAL NEEDS:

The College will make reasonable accommodations for persons with documented disabilities. Students should notify the Counselor for Students with disabilities (located in Counseling and Career Development, Building 410, Room 210) and their instructors of any special needs. Instructors should be notified on the first day of classes.

ACCESS TO COMPUTERS FOR ACADEMIC COURSES:

The College has computer labs available for student use on all three campuses. Students who experience problems with home computers should plan to accomplish their assignments at the College**. Home computer problems or Internet access are not a valid reason for not submitting an assignment, quiz or exam.**

ATTENDANCE POLICY:

Before attending classes, students must meet all prerequisites and officially register for all courses. Prompt and regular attendance is the responsibility of the students. Students are responsible for all material covered and all assignments made in class. Any time you are absent from a class, laboratory or other scheduled events, it is your responsibility to make satisfactory arrangements for any make-up work permitted by the instructor.

An absence is defined as nonattendance for any reason, including illness, emergency or official leave. If a student **arrives late or leaves before** the instructor dismisses class, the student may also be considered absent. All class sessions are important. Any time a student misses a class he/she increases the risk of making a failing grade.

If a student quits coming or participating in the course and does not officially withdraw by the withdrawal date for each semester, that student will receive a grade of F or U. the instructor cannot assign a grade of W. if a student receives financial aid or veterans' aid, his/her aid may be revised as a result of any changes in his/her course schedule.

NOTE: Online Courses requires students to log in at least once every two weeks. This is especially important for students with Veteran status and International students.

INSTRUCTOR AVAILABILITY:

Your instructor is available to you outside of class for academic assistance. Full/time faculty maintain and post regularly scheduled office hours. Part-time faculty are accessible via D2L email with regards to online courses.

MINOR CHANGES, e.g., ORDER OF TOPICS, MAY BE MADE AT THE INSTRUCTOR'S DISCRETION AND MAY BE ANNOUNCED AHEAD OF TIME.

Course Objectives:

1.Understanding Network Concepts

1.1 Explain the purposes and uses of ports and protocols.

1.2 Explain Devices, applications, protocols, and services at their appropriate OSI layers.

1.3 Understand the concepts and characteristics of routing and switching.

1.4 Given a scenario, configure the appropriate IP addressing components.

1.5 Compare and contrast the characteristics of network topologies, types, technologies.

1.6 Given a scenario, implement the appropriate wireless technologies and configurations.

1.7 Understand cloud concepts and their purposes.

1.8 Explain the functions of network services.

2 To understand network infrastructure

2.1 Given a scenario, deploy the appropriate cabling solution.

2.2 Given a scenario, determine the appropriate placement of networking devices on a network and install/configure them.

2.3 Explain the purposes and use cases for advanced networking devices.

2.4 Understand the purposes of virtualization and network storage technologies.

2.5 Compare and contrast WAN technologies.

3 To understand and apply concepts of network operations

3.1 Given a scenario, use appropriate documentation and diagrams to manage the network.

3.2 Understand concepts of business continuity of disaster recovery.

3.3 To understand the purpose of common scanning, monitoring and patching processes.

3.4 Given a scenario, use remote access methods.

4 Understanding the fundamentals of network security.

4.1 Summarize the purpose of physical security devices.

4.2 Understand authentication and access controls.

4.3 Given a scenario, secure a basic wireless network.

4.4 Summarize common networking attacks.

4.5 Given a scenario, implement network device hardening.

4.6 Explain common mitigation techniques and their purposes.

5 Network troubleshooting and tools.

5.1 Explain the troubleshooting methodology.

5.2 Given a scenario use the appropriate tool.

5.3 Given a scenario, troubleshoot common wired connectivity and performance issues.

5.4 Given a scenario, troubleshoot common wireless connectivity and performance issues.

5.5 Given a scenario, troubleshoot common network service issues