CCNA 3: Enterprise Networking, Security, and Automation (ITCC 2320 6A1)

CREDIT
3 Semester Credit Hours (2 hours lecture, 4 hours lab)

MODE OF INSTRUCTION
Face to face

PREREQUISITE/CO-REQUISITE:
ITCC 1314: Introduction to Networks
ITCC 1344: Routing and Switching Essentials

COURSE DESCRIPTION
Describes the architecture, components, operations, and security to scale for large, complex networks, including wide area network (WAN) technologies. Emphasizes network security concepts and introduces network virtualization and automation.

COURSE OBJECTIVES
Upon completion of this course, the student will be able to

- Configure advanced routing and switching protocols
- Resolve common issues with routing and switching protocols; identify threats and enhance network security
- Implement IPv4 Access Control Lists (ACLs)
- Configure Network Address Translation (NAT) services
- Explain virtualization, software defined networking, and automation

INSTRUCTOR CONTACT INFORMATION

Instructor:	Susan Joiner
Email:	sljoiner@lit.edu
Office Phone:	409-247-5326
Office Location:	TA4 Room 103A
Office Hours:	MWF 7:30-8:00am; 12:00-3:00pm TR 7:30-8:00am; 1:30-3:00pm

REQUIRED TEXTBOOK AND MATERIALS

- *Enterprise Networking, Security, and Automation Companion Guide (CCNAv7)*, by Cisco Networking Academy, Cisco Press, July 2020.
  - ISBN (Print) 9780136634324
  - ISBN (E-Book) 9780137459551

Approved: Initials/date

RECOMMENDED TEXTBOOK AND MATERIALS

- *CCNA 200-301 Portable Command Guide, 5th Edition*, by Cisco Networking Academy, Cisco Press, 2020.
    - ISBN (Print) 97801359537822
    - ISBN (E-Book) 97801359537709

ATTENDANCE POLICY

Three absences are allowed. If a student is tardy to class or departs early three (3) times, it will be equal to one (1) absence. Each absence beyond three absences will result in a 2 point deduction from your final grade.

DROP POLICY

If you wish to drop a course, you are responsible for initiating and completing the drop process by the specified drop date as listed on the Academic Calendar. If you stop coming to class and fail to drop the course, you will earn an "F" in the course.

Important Drop Dates

Last Day to Drop with Refund	02/10/2025
Last Day to Pay Tuition to Avoid Drop	02/20/2025
Last Day to Drop without Academic Penalty	02/26/2025
Last Day to Drop with Academic Penalty	04/14/2025

STUDENT EXPECTED TIME REQUIREMENT

For every hour in class (or unit of credit), students should expect to spend at least two to three hours per week studying and completing assignments. For a 3-credit-hour class, students should prepare to allocate approximately six to nine hours per week outside of class in a 16-week session OR approximately twelve to eighteen hours in an 8-week session. Online/Hybrid students should expect to spend at least as much time in this course as in the traditional, face-to-face class.

COURSE CALENDAR (Subject to change)

DATE	TOPIC	READINGS (Due on this Date)	ASSIGNMENTS (Due on this Date)
Week 1 1/21-1/26	Intro/Syllabus	Syllabus	1/27/2025
Week 2 1/26-2/2	Single-Area OSPF Concepts	Chapter 1	2/3/2025
Week 3 2/2-2/9	Single-Area OSPF Configuration	Chapter 2	Packet Tracer 2.2.13 Packet Tracer 2.6.6 Lab 2.7.2 Study Guide Exam 1 2/10/2025
Week 4 2/9-2/16	Network Security Concepts	Chapter 3	Security Assignment 2/17/2025
Week 5 2/1-2/23	ACL Concepts	Chapter 4	Packet Tracer 4.1.4 2/23/2025
Week 6 2/23-3/2	ACLs for IPv4 Configuration	Chapter 5	Packet Tracer 5.1.8 Packet Tracer 5.1.9 Packet Tracer 5.2.7 Study Guide Exam 2 3/3/2025
Week 7 3/2-3/9	NAT for IPv4	Chapter 6	Packet Tracer 6.4.5 Packet Tracer 6.5.6 Packet Tracer 6.6.7 3/10/2025
Spring Break 3/9-3/16	Spring Break	Spring Break	Spring Break
Week 8 3/16-3/23	WAN Concepts	Chapter 7	Packet Tracer 7.6.1 3/24/2025
Week 9 3/23-3/30	VPN AND IPSec Concepts	Chapter 8	VPN Assignment Study Guide Exam 3 3/31/2025
Week 10 3/30-4/6	QoS Concepts	Chapter 9	QoS Assignment 4/7/2025
Week 11 4/6-4/13	Network Management	Chapter 10	Packet Tracer 10.1.15 Packet Tracer 10.3.4 Packet Tracer 10.6.10 4/14/2025

Week 12 4/13-4/20	Network Design	Chapter 11	Packet Tracer 11.5.1 4/21/2025
Week 13 4/20-4/27	Network Troubleshooting	Chapter 12	Packet Tracer 12.5.13 Study Guide Exam 4 4/28/2025
Week 14 4/27-5/4	Network Virtualization	Chapter 13	Virtualization Assignment 5/5/2025
Week 15 5/4-5/11	Network Automation	Chapter 14	Network Automation Assignment Study Guide Exam 5 5/12/2025
Week 16 5/11-5/13	Final Exam	None	Final Exam 5/12/2025

COURSE EVALUATION

Final grades will be calculated according to the following criteria:

- Labs 30%
- Study Guides 10%
- Module Tests 30%
- Final Exam 30%

GRADE SCALE

- 90-100 A
- 80-89 B
- 70-79 C
- 60-69 D
- 0-59 F

LIT does not use +/- grading scales

A grade of 'C' or better must be earned in this course for credit toward degree requirement.

ACADEMIC DISHONESTY

Students found to be committing academic dishonesty (cheating, plagiarism, or collusion) may receive disciplinary action. Students need to familiarize themselves with the institution's Academic Dishonesty Policy available in the Student Catalog & Handbook at http://catalog.lit.edu/content.php?catoid=3&navoid=80#academic-dishonesty.

TECHNICAL REQUIREMENTS

The latest technical requirements, including hardware, compatible browsers, operating systems, etc. can be online at https://lit.edu/online-learning/online-learning-minimum-

computer-requirements. A functional broadband internet connection, such as DSL, cable, or WiFi is necessary to maximize the use of online technology and resources.

DISABILITIES STATEMENT

The Americans with Disabilities Act of 1990 and Section 504 of the Rehabilitation Act of 1973 are federal anti-discrimination statutes that provide comprehensive civil rights for persons with disabilities. LIT provides reasonable accommodations as defined in the Rehabilitation Act of 1973, Section 504 and the Americans with Disabilities Act of 1990, to students with a diagnosed disability. The Special Populations Office is located in the Eagles' Nest Room 129 and helps foster a supportive and inclusive educational environment by maintaining partnerships with faculty and staff, as well as promoting awareness among all members of the Lamar Institute of Technology community. If you believe you have a disability requiring an accommodation, please contact the Special Populations Coordinator at (409)-951-5708 or email specialpopulations@lit.edu. You may also visit the online resource at Special Populations - Lamar Institute of Technology (lit.edu).

STUDENT CODE OF CONDUCT STATEMENT

It is the responsibility of all registered Lamar Institute of Technology students to access, read, understand and abide by all published policies, regulations, and procedures listed in the *LIT Catalog and Student Handbook*. The *LIT Catalog and Student Handbook* may be accessed at www.lit.edu. Please note that the online version of the *LIT Catalog and Student Handbook* supersedes all other versions of the same document.

ARTIFICIAL INTELLIGENCE STATEMENT

Lamar Institute of Technology (LIT) recognizes the recent advances in Artificial Intelligence (AI), such as ChatGPT, have changed the landscape of many career disciplines and will impact many students in and out of the classroom. To prepare students for their selected careers, LIT desires to guide students in the ethical use of these technologies and incorporate AI into classroom instruction and assignments appropriately. Appropriate use of these technologies is at the discretion of the instructor. Students are reminded that all submitted work must be their own original work unless otherwise specified. Students should contact their instructor with any questions as to the acceptable use of AI/ChatGPT in their courses.

STARFISH

LIT utilizes an early alert system called Starfish. Throughout the semester, you may receive emails from Starfish regarding your course grades, attendance, or academic performance. Faculty members record student attendance, raise flags and kudos to express concern or give praise, and you can make an appointment with faculty and staff all through the Starfish home page. You can also login to Blackboard or MyLIT and click on the Starfish link to view academic alerts and detailed information. It is the responsibility of the student to pay attention to these emails and information in Starfish and consider taking the recommended actions. Starfish is used to help you be a successful student at LIT.

ADDITIONAL COURSE POLICIES/INFORMATION

Certification Requirement

Cyber Security majors are required to earn certification in one of the following areas prior to graduation. **Students are responsible for scheduling and paying for the certification through the LIT Testing Center.**

- A+ Certification
- Network+ Certification
- Security+ Certification
- Linux+ Certification
- Cisco Certified Network Associate (CCNA)

This course covers part of the material to prepare for the Cisco Certified Network Associate v1.0 (CCNA 200-301) certification exam. All three Cisco courses must be completed to cover the material for the CCNA exam. More information about the certification can be found online at http://www.cisco.com/c/en/us/training-events/training-certifications/certifications.html.

Course Policies

1. **Email is the preferred method of communication (sljoiner@lit.edu).** I cannot respond to Blackboard Messages, I can see them but I have no way to respond. I will respond within 48 hours except for weekends and holidays.
2. No food, drinks, use of tobacco products, or vaping products in class.
3. Electronic devices not being used for the class, such as phones and headphones,must be turned off while in class. Any device usage during class may result in adeduction of points on an assignment or test.
4. Do not bring children to class.
5. Certification: If a student passes the certification test that is associated with this class, you will receive an "A" on the final exam and credit for 25% of your labs.
6. A grade of 'C' or better must be earned in this course for credit toward degree requirement.
7. All assignment due dates are indicated in the Blackboard course for this class and the course calendar above. Any work submitted after the assigned due date will receive a **10-point deduction the first 2 days and 15 points after 2 days. There is a one-week limit for late work, after one week it will be a 0.**
8. Exams are assigned a due date and must be completed by that date to receive full credit. **Exams will be open for 5 days total, 3 days for full credit and 2 days for 15-points off. There will be no makeup exams.**
9. All assignments must be submitted via Blackboard unless specified by your instructor. **All assignments require 2 files when submitting work, a packet tracer file and a word document or PDF.** Assignments submitted through any other method or missing a file will not receive credit.

10. Grades for assignments may be accessed in the Gradebook in Blackboard. Each assignment shows your grade and any grading comments made on your assignment.
11. Chapter Exam grades may be accessed through the Cisco website until they are transferred to the Gradebook in Blackboard.
12. It is the student's responsibility to verify transferred exam grades and ask for corrections if needed.
13. All work is due before the final exam date. Nothing will be graded after the final exam.