Course Rationale:
The two part course describes the architecture, components and operations of routers and switches in larger more complex networks. Students learn how to configure network devices for advanced functionality. In addition students will learn WAN technologies and network services required by converged network applications in a complex network. The course enables students to understand the selection criteria of network devices and WAN technologies to meet network requirements. In both courses students learn to configure and troubleshoot network devices and protocols, and to resolve common as well as complex network issues. This course helps the student prepare for the Cisco Interconnecting Cisco Networking Devices 2 exam, or Certified Network Associate exam.

Course Objectives:
Upon successful completion of this course, the student's acquired competencies include:
- Understand, configure and troubleshoot enhanced switching technologies.
- Understand, configure and troubleshoot first hop redundancy protocols.
- Understand, configure and troubleshoot wireless routers and clients.
- Configure and troubleshoot routers in a complex routed IPv4 or IPv6 network using OSPF, multi area OSPF, or EIGRP.
- Manage Cisco IOS software licensing and configuration files.
- Understand and describe different WAN technologies and their benefits.
- Understand and describe different operations and benefits of VPNs and tunneling.
- Understand, configure and troubleshoot serial connections, broadband connections, and NAT using syslog, SNMP, and Netflow.
- Understand and describe network architectures.

Attendance:
See the STA Student Handbook. In summary, students are expected to be present and punctual for all scheduled classes and labs. Please notify your instructor of any absence or attendance concern prior to the absence, if possible.

Curriculum Access:
Students will utilize course materials through our curriculum providers, TestOut (**www.testout.**com) Routing & Switching Pro and Cisco Networking Academy (**www.netacad.com**) CCNA R&S: Scaling Networks and CCNA R&S: Connecting Networks. Each student will utilize his or her personal username and password combination to the curriculum providers' websites. Students should remember not to share their curricular access or they will be in violation of the respectable user agreement and may lose access to the course materials.

Code of Conduct:
Students are expected to conduct themselves in a manner consistent with the educational purpose of this institution. Conduct deemed unacceptable toward maintaining a proper educational atmosphere will subject the student to disciplinary action in accordance with STA and LSR-7 policies.

Dual Credit Opportunity:
Qualified students can enroll and earn dual-credit through MCC-Business&Technology: **CSIS212**: Scaling Networks; **CSIS213**: Connecting Networks; or Routing & Switching Essentials or through the University of Central Missouri: **NET2060**: Scaling Networks; **NET2061**: Connecting Networks.

Grading Scale:

95 - 100	A	73 - 76 C
90 - 94	A-	70 - 72 C-
87 - 89	B+	67 - 69 D+
83 - 86	B	63 - 66 D
80 - 82	B-	60 - 62 D+
77 - 79	C+	Below 60 F

Grading Rationale:

In this course, the semester grade will consist of the student's evaluated performance. The student's semester grade is calculated by combining the 18-week grade and the required Lee's Summit R-7 semester final exam as follows:

SEMESTER GRADE COMPONENTS	SEMESTER %
● Daily Work (see explanation below)	40%
● Formal Evaluations (see explanation below)	20%
● CCNA R&S: Scaling Networks Skills Exam & CCNA R&S: Connecting Networks Skills Exam	20%
Lee's Summit R-7 Semester Final	**20%**
TOTAL SEMESTER GRADE PERCENTAGE	**100%**

Daily Work:

Credit for daily work will consist of a combination of all in-class, out-of-class, and homework assignments not indicated above. These assignments include, but are not limited to the following: quizzes (end of chapter), simulations, packet tracer exercises, presentations and writing assignments.

Formal Evaluations:

These evaluations consist of packet tracer practice skills assessments, any exams out of Routing & Switching Pro, and the end of semester final in CCNA R&S Scaling Networks.

Final Exam:

The CCNA R&S Connecting Networks final exam.

Late Assignments:

Assignments that are late due to an Excused Absence must be submitted in accordance with the LSR-7 policy. Any assignment submitted one school day late will be reduced by 25%, two days 50%. Any assignments received 3 or more days late will be awarded no credit.