

# **Part 1: Course Details**

**Division/Department requesting change: CIT**

**Course developer name and contact information: Joseph Colton, coltonj@lanecc.edu**

**Division Dean: Chris Rehn**

**Academic year (e.g., 2018-19) change will take effect: 2019-20**

**TYPE OF COURSE**

**Lower Division Collegiate**  **Professional/Technical** **Developmental, numbered below 100**

**CHANGES TO COURSE**

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| **Enter Current Course Information**  **(fill out this column completely)** | **Proposed Change type  (check all that apply)** | **Proposed Course Changes** |
| Course number: CS 279 | **Course number** |  |
| Course title: Essentials of Network Administration | **Course title** | Scaling Networks |
| Credits  \_2\_\_ Lecture  \_1\_\_ Lecture/Lab  \_1\_\_ Lab  \_4\_\_ Total Credits | **Credit change** | \_\_\_ Lecture  \_\_\_ Lecture/Lab  \_\_\_ Lab  \_\_\_ Total Credits |
| Contact hours per week  \_2\_\_ Lecture  \_2\_\_ Lecture/Lab  \_3\_\_ Lab  \_7\_\_ Total Contact Hours/Week | **Contact hours per week (see formula below)**  **1 lecture = 1 contact hour per week**  **1 lecture/lab = 2 contact hours per week**  **1 lab = 3 contact hours per week** | \_\_\_ Lecture  \_\_\_ Lecture/Lab  \_\_\_ Lab  \_\_\_ Total Contact Hours/Week |
| **Prerequisites (current)**  **CS 179** | **Prerequisites** | **Prerequisites (proposed)**  **CS 189** |
| **Placement test and code (**e.g., 4cpa score of 75-120; contact testing for codes) | **Prerequisite placement test/score** |  |
| **Co-requisites** | **Co-requisites** |  |
| **Grade option (letter or P/NP):** | Grade option (letter or P/NP) | **Grade option (proposed):** |
| **Copy/paste current course description.** If this course is repeatable for credit, please include a sentence in your description. E.g., “This course is repeatable for up to \_\_\_ credits.”  Provides students with an in-depth understanding of key networking concepts and tools enabling them to be successful in the more advanced networking courses and as networking professionals. Example topics: Network design/mapping, TCP/IP protocols, IP addressing, port numbers, routing protocols, and protocol analysis software. | **Course description (300 characters). For examples, see** [Sample Course Descriptions](https://www.lanecc.edu/currsched/sample-course-descriptions)**.** | **Enter revised description (aim for 300-400 characters/approximately 60-70 words):**  Scaling Networks covers the architecture, components, and operations of routers and switches in larger and more complex networks. Students learn how to configure routers and switches for advanced functionality. |
| **Copy/paste current learning outcomes:**   1. Understand the IPv6 protocol and be able to think critically about the differences between this new protocol and the traditional IPv4 protocol 2. Be able to design networks, and map them in order to communicate the design effectively 3. Have an in-depth understanding of the most common networking protocols and be able to apply this knowledge to solving networking problems 4. Be able to use protocol analysis software thereby engaging the different perspective provided by this tool to aid in the understanding of networking concepts, and to find solutions for network problems 5. Understand IP addressing in order to create IP subnets for various networked environments and to arrive at solutions for network segmentation issues 6. Have an in-depth understanding of network port numbers and apply this knowledge for effective network administration 7. Know the fundamentals of router configuration and routing protocols in order to create solutions for network communication problems and for effectively implementing network segmentation | **Course learning outcomes, Core Learning Outcomes, and assessments** | **Enter new outcomes, assessments in chart below** |
|  | **Other (please explain)** |  |

# **Part 2: Rationale, Equity, Library Resources, Course Overlap**

**RATIONALE: Describe the rationale for this course revision**

***We are adopting the Cisco Academy Curriculum in order to better prepare students for job opportunities and to provide more depth in computer networking. Many companies require students applying for network administrator positions have Cisco certifications. This course helps students develop depth in networking and prepares them for industry certifications.***

**CURRICULUM EQUITY STATEMENT** Please do not copy/paste the [COPPS equity statement](https://www.lanecc.edu/copps/documents/curriculum-equity). Reflect how your course supports equity. **To promote an environment where all learners are encouraged to develop their full potential, this course will support Lane’s Curriculum Equity policy in the following way(s):**

*This course will be using the Cisco Network Academy materials. It provides extremely valuable materials including texts, videos, and simulation software at no cost to the students. The materials are also available online instead of just in classroom settings so students who are not able to attend class everyday are able to continue to work at home. The cost and availability make the curriculum more accessible and support equity for all of our students.*

**LIBRARY CONSULTATION Please contact your liaison librarian to schedule a 30+ minute individualized instructional consultation and collaboration session. In addition to your specific course-related questions, your librarian will be prepared to share:**

* **Library resources and services that support your teaching and student learning needs**
* **OER (Open Educational Resources) options that align with your program and course curriculum**
* **Strategies for integrating the development of information literacy skills into course content and/or assignments**

Please allow one week for the librarian to prepare for your consultation. If you are not sure who your liaison librarian is, you can either look it up on the [Library’s website](https://library.lanecc.edu/services/liaison) or call the Library Reference Desk at 463-5355. (Librarian signature required above.)

**COURSE OVERLAP Indicate any topic/content overlap with other courses. How will this course's topics and content be differentiated?** If there is overlap, faculty of overlapping courses must **agree on the extent of overlap and** **include a rationale** explaining its necessity. The dean of the division in which overlap occurs must sign their approval (see p.1).

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| Division | Course Number / Title | Rationale | Dean of overlap course (name) |
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**CAREER/TECHNICAL COURSE TRACKING (required only for career/technical courses)**

Career/Technical courses are tracked within programs for purposes of Carl Perkins funding and budgetary planning. Indicate all degree or certificate programs for which this course will be required.

|  |  |
| --- | --- |
| **Programs in which course will be required** | **Division** |
| Computer Network Operations | CIT |
|  |  |

# **Part 3: Outcomes, Assessments, and Topics**

**List course outcomes, Core Learning Outcomes (CLOs), and Assessments** The information in this section should be used to create your course outline and syllabus. How are Lane’s Core Learning Outcomes emphasized and measured or demonstrated through course assessments? Please indicate which [Core Learning Outcomes and Dimensions](https://www.lanecc.edu/assessment/core-learning-outcomes) are linked to your course outcomes. Need help? Contact Tammy Salman, Faculty Coordinator, Assessment and Curriculum Development or Sarah Lushia, Core Learning Outcomes Coordinator.

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| --- | --- | --- |
| [**Core Learning Outcomes and Dimension**s](https://www.lanecc.edu/assessment/core-learning-outcomes) **You do not need a CLO for each course outcome**.  **EXAMPLE** CLO 1.2:Determine information need, find and cite relevant information | **COURSE-LEVEL LEARNING OUTCOMES** (course outcomes)  [See this page for guidance on writing outcomes](https://www.lanecc.edu/assessment/developing-and-refining-learning-outcomes)  **EXAMPLE**  Upon successful completion of this course, students will be able to:  1. Describe and explain general plant structure and function in relation to plant growth and development.  2. Demonstrate knowledge of horticultural principles in the cultivation of plants. | **ASSESSMENTS** Include specific assignments you will use to measure/observe student attainment of outcomes. For assessment ideas see [Authentic Tasks](http://jfmueller.faculty.noctrl.edu/toolbox/tasks.htm) |
| **3.1, 3.3, 3.5, 5.2, 5.3** | * Configure and troubleshoot routers and switches | Chapter Exams, Skills Assessments, Final Exam |
| 3.2, 3.3, 3.5, 5.1, 5.2, 5.3 | * Resolve common issues with OSPF, EIGRP, and STP in both IPv4 and IPv6 networks | Chapter Exams, Skills Assessments, Final Exam |
| 3.1, 3.2, 3.3, 3.4, 3.5, 5.2, 5.3 | * Implement a WLAN in a small-to-medium network | Chapter Exams, Skills Assessments, Final Exam |

**COMPETENCIES AND TOPICS COVERED (include in course outline)**

Example: [Course Outline Sample](https://www.lanecc.edu/copps/course-outline-sample) (from COPPS)

*1 LAN Design*

*2 Scaling VLANs*

*3 Spanning Tree Protocol*

*4 Etherchannel and HSRP*

*5 Dynamic Routing*

*6 EIGRP*

*7 EIGRP Tuning and Troubleshooting*

*8 Single-Area OSPF*

*9 Multiarea OSPF*

*10 OSPF Tuning and Troubleshooting*

# **Part 4: Financial and Student Impact**

**Financial Impact Analysis**

Describe the financial impact of the revised course, including: Instructional costs; workload (both FT and PT faculty and classified staff); physical space requirements (e.g., labs); additional equipment needs; additional fees; any cost reductions

*By switching the course to align with the Cisco Network Academy curriculum we will be able to save costs on curriculum development, but we will need to have our faculty trained and certified. There are no new lab fees and will will now be able to deliver the class in an online setting.*

**Student Impact Analysis**

Describe the revised course’s potential impact on students, including: Effect of changes on program requirements, articulations, cost, credit load, avoiding excess credits in transfer, financial aid credit limits, completion, and enrollments; determination of how new/revised courses transfer to four-year schools (please consult with your advisor).

*The course changes should allow for better articulation with other schools using Cisco Network Academy including Linn-Benton and other Oregon community colleges. It should be easier to accommodate students who are unable to come to campus regularly because Cisco provides virtualization of Cisco equipment.*

# **Part 5: Degree Requirements Applications (if applicable)**

If applying for any of the following, check the appropriate boxes and include your completed degree requirements forms with this course proposal. Go to the [Curriculum Office website](https://www.lanecc.edu/currsched/curriculum-forms) to download these forms.

AAOT (Career Technical courses not eligible)

Arts & Letters

Cultural Literacy

Information Literacy

Mathematics

Science /Computer Science

Social Sciences

Speech/Oral Communication

Health/Wellness/Fitness (all degrees)

Human Relations designation (for AAS degrees and certificates)

Sustainability course status (optional)

**College Approval (before signing, please see Curriculum Committee recommendations for this course in the committee’s** [**meeting minutes**](https://www.lanecc.edu/currsched/agendas)**)**

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Executive Dean for Academic Affairs Date

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Vice President for Academic & Student Affairs Date