

Johnson County Community College
Course Syllabus
CS & IT Division
Department of Information Technology-Networking
Scaling Networks
IT 209-376
Fall 2018-1st 8 Weeks

Instructor: Akram Al-Rawi

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Office Hours: On Campus M T W 8:00-9:30 A.M, R 9:00-10:30

Course Information:

Class Meeting Times and Location: Hybrid, T 6:00-8:50 RC 350; August 21st-October 9th
Credit Hours: 4

Prerequisites/corequisites: [IT 145](#) Routing and Switching Essentials

Textbook: (optional)

Scaling Networks v6 Companion Guide, 1st edition

By Cisco Networking Academy

<http://www.ciscopress.com>

ISBN-13: 978-1-57813-434-0

Copyright: 2018

Required Class Materials: None

Course Description:

This course is designed to provide students with the necessary knowledge and skills to interconnect and configure routers and switches in large networks. Students successfully completing this course should be able to perform switch and router administration tasks including installing, configuring and troubleshooting. Students will build networks based on the hierarchical design model supported by Virtual Local Area Networks (VLANs), VLAN Trunking Protocol (VTP), Spanning Tree Protocol (STP), Etherchannel, Hot Standby Redundancy Protocol (HSRP), Open Shortest Path First (OSPF) and Enhanced Interior Gateway Routing Protocol (EIGRP) in Internet Protocol version 4 and 6 (IPv4 and IPv6) networks. 3 hrs. lecture, 2 hrs. open lab/wk.

Course Objectives

1. Implement VTP and Dynamic Trunking Protocol (DTP) to simplify management of the VLAN database across multiple switches.
2. Configure and troubleshoot STP to prevent loops in a switched network.
3. Configure and troubleshoot Etherchannel and First Hop Redundancy Protocol (FHRP).
4. Explain how distance vector and link-state Dynamic Routing Protocols operate.
5. Configure and troubleshoot EIGRP in IPv4 and IPv6 networks.
6. Configure and troubleshoot single area OSPF for IPv4 and IPv6.
7. Configure and troubleshoot multiarea OSPF for IPv4 and IPv6.

*Detailed course objectives can be viewed on the Course Outline at:

http://catalog.jccc.edu/coursedescriptions/it/#IT_209

Attendance:

You need to be in the class during the last period to take the final exam and the final skill assessment. We follow the college attendance policy.

<http://www.jccc.edu/about/leadership-governance/policies/students/academic/attendance.html>

Faculty Initiated Withdrawal: None

Late Work and Makeup Policy:

Labs and tests will not be accepted for credit after due dates unless you have a legitimate reason. Chapter exams will be enabled for one week; Homework drop boxes will be open for one week. Canvas Announcements will state the due date for the homework and the chapter exams.

Student Code of Conduct: Students are bound by all sections of the JCCC Student Code of Conduct <http://www.jccc.edu/about/leadership-governance/policies/students/student-code-of-conduct/index.html> as well as the Student Handbook - <http://www.jccc.edu/student-resources/student-handbook.html>

Academic Dishonesty, Cheating, or Plagiarism:

No student shall engage in behavior that, in the judgment of the instructor of the class, may be construed as cheating. This may include, but is not limited to, plagiarism or other forms of academic dishonesty such as the acquisition without permission of tests or other academic materials and/or distribution of these materials. This includes students who aid and abet, as well as those who attempt such behavior.

ADA Compliance: <http://www.jccc.edu/about/leadership-governance/policies/accessibility-statement.html>

To schedule an appointment with an Access Advisor or for additional information, you can contact Access Services at (913) 469-3521. Access Services is located on the 2nd floor of the Student Center (SC 202).

Campus Safety: Information regarding student safety can be found at

<http://www.jccc.edu/student-resources/police-safety/>.

Classroom and campus safety are of paramount importance at Johnson County Community College, and are the shared responsibility of the entire campus population. Please review the following:

- **Report Emergencies:** to Campus Police (available 24 hours a day)
 - In person at the Carlsen Center (CC115)
 - Call 913-469-2500 (direct line) – *Tip: program in your cell phone*
 - You are an extra set of eyes and ears to help maintain campus safety
 - Trust your instincts
 - Report suspicious or unusual behavior/circumstances to Campus Police (see above)
- **Be Prepared:**
 - Identify the red/white stripe Building Emergency Response posters throughout campus and online that show egress routes, shelter, and equipment
 - View A.L.I.C.E. training (armed intruder response training - Alert, Lockdown, Inform, Counter and/or Evacuate) – Student training video:
<https://www.youtube.com/watch?v=kMcT4-nWSq0>
 - Familiarize yourself with the [College Emergency Response Plan](#)
- **During an Emergency:** Notifications/Alerts (emergencies and inclement weather) are sent to all employees and students using email and text messaging
 - students are automatically enrolled, see [JCCC Alert - Emergency Notification](#)
- **Weapons Policy:** Effective July 1, 2017, concealed carry handguns are permitted in JCCC buildings subject to the restrictions set forth in the Weapons Policy. Handgun safety training is encouraged of all who choose to conceal carry. Suspected violations should be reported to JCCC Police Department 913-469-2500 or if an emergency, you can also call 911.

Caveats: The curriculum, labs, and assessments in this course are based on the Cisco Network Academy. Students will be issued accounts for online access to course materials.

<https://www.netacad.com>

→ To Access Cisco Academy

<https://netlab.jccc.edu> -> To Access NDG NetLab, you need to use IE or Firefox

The Netlab+ username is the JCCC id

Course Evaluation & Grading Scale:

Final grade calculations will be based on the following:

Chapter Exam (10, two attempts)	10%	A	90 – 100%
Cisco Hw/Labs (37)	50%	B	80 – 89.9%
Final Exam (Comp, one attempt) Part I & Part II	15%	C	70 – 79.9%
Skill Assessment (Comp, closed book)	25%	D	60 – 69.9%
		F	< 60%

Drop Deadlines: To view the deadline dates for dropping this course, please refer to the schedule on the JCCC web page, under Admissions>Enrollment Dates>Dropping Credit Classes.

After the 100% refund date, you will be financially responsible for the tuition charges; for details, search on Student Financial Responsibility on the JCCC web page. Changing your

schedule may reduce eligibility for financial aid and other third party funding. Courses not dropped will be graded. For questions about dropping courses, contact the Student Success Center at 913-469-3803.

Tentative Course Schedule:

Sess ion	Week of	Topic	Reading Assign.	Lab/Hw Assignment
1	August 21	<ul style="list-style-type: none"> • Introduction to the course • Cisco Academy Curriculum 1. LAN Design 2. Scaling VLAN	Chapter 1 Chapter 2	1.2.1.7 PT/PDF 1.3.1.3 PT 2.1.4.5 2.2.3.3 PT 2.3.1.5 PT 2.2.2.5 PDF
2	August 28	3. Spanning Tree Protocol	Chapter 3	3.3.2.2 PT 3.3.2.3 PDF 3.3.1.5 PT 3.1.2.12 PDF
3	September 4	4. Etherchannel & HSRP	Chapter 4	4.2.1.4 PDF 4.2.2.3 PT 4.3.3.4 PDF 4.3.4.4 PT 4.4.1.2 PT
4	September 11	5. Dynamic Routing 6..EIGRP	Chapter 5 Chapter 6	5.2.1.6 PT 5.2.3.4 PT 6.2.2.4 PT 6.2.2.5 PDF
5	September 18	6. EIGRP 7. EIGRP Tuning and Troubleshooting	Chapter 6 Chapter 7	6.4.3.4 PT 6.4.3.5 PDF 7.1.3.6 PDF 7.2.3.5 PT 7.3.1.2 PT
6	September 25	8. Single-Area OSPF	Chapter 8	8.2.2.7 PT 8.2.4.5 PDF 8.3.3.6 PDF 8.4.1.2 PT
7	October 2	9. Multi-Area OSPF 10. OSPF Tuning and Troubleshooting	Chapter 9 Chapter 10	9.2.2.8 PDF 9.2.2.7 PT 9.2.2.9 PDF 10.1.2.5 PT 10.1.3.5 PDF 10.2.2.3 PT 10.2.3.3 PDF 10.3.1.2 PT

8	October 9	Final Skill Assessment (comp, 25%) Final Exam (Comp) Part I (5%), Part II (10%)		6:00-9:50 RC 350
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Important date:

?? – Last day to withdraw from a course without a “W”.

September 3rd Labor Day, College closed

Note: If you have any question about the lab or the curriculum feels free to send me an email (aalrawi@jccc.edu) or call me at office or at home.

Important Information:

Cisco Chapter Exams: Ch1-Ch.10 are done using canvas, two attempts, at your convenient.

Final exam: Part I (5%) Ch1-Ch10 using Cisco Networking Academy; Part II Canvas (10%)

Final Skill Assessment: Netlab.

All Home works should be submitted to the corresponding drop boxes in Canvas.

CCNA or ICND1/ICND2 exam preparation: <http://www.9tut.com>