

**JOHNSON COUNTY COMMUNITY COLLEGE**  
**COURSE SYLLABUS**  
**CS & IT Division**  
**Department of Information Technology-Networking**  
**Accessing Wide Area Network**  
**IT 247-350**  
**Fall 2018 2<sup>nd</sup> 8 Weeks**

**Instructor:** Akram Al-Rawi

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Office Hours: On campus M T W: 8:00 -9:30; R 9:00-10:30

**Course Information:**

Class Meeting Times and Location: RC-350 Hybrid, October 16th - December 4<sup>th</sup>

Credit Hours: 3

Prerequisites/corequisites: IT 209 Scaling Networks and IT 145 Routing & Switching Essentials

Textbook: (optional). We will use Cisco Networking Academy Online Curriculum  
Connecting Networks v6 Companion Guide

Cisco Press, September 2017

ISBN-13: 978-1-58713-432-6

<http://www.ciscopress.com/>

Required Class Materials: *None*

**Course Description:**

The focus of this course is on the Wide Area Network (WAN) technologies and network services required by converged applications in a complex network. In this course, students will learn the selection criteria of network devices and WAN technologies to meet network requirements. 2 hrs. lecture, 3 hrs. lab/wk.

**Course Objectives:**

Students who complete this course will be able to perform the following functions:

1. Describe different WAN technologies and their benefits.
2. Configure and troubleshoot Point-to-Point Protocol (PPP).
3. Configure PPP over Ethernet (PPPoE), Generic Routing Encapsulation (GRE), and single-homed Border Gateway Protocol (eBGP).
4. Configure and troubleshoot extended IPv4 and IPv6 Access Control Lists (ACLs).

5. Explain how to mitigate common Local Area Network (LAN) security attacks.
6. Describe Quality of Service (QoS) operation.
7. Describe evolving networks including cloud, virtualization, Software Defined Networking (SDN) and the Internet of Things (IoT).
8. Troubleshoot end-to-end connectivity in a small to medium-sized business network, using a systematic approach.

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

[http://catalog.jccc.edu/coursedescriptions/it/#IT\\_247](http://catalog.jccc.edu/coursedescriptions/it/#IT_247)

**Attendance:**

You need to be in the class at least during the last two periods 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 exam will be enabled for one week; Homework drop boxes will be enabled for one week.

**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  
Netlab+ username is the JCCC id

### Course Evaluation & Grading Scale:

Final grade calculations will be based on the following:

Chapter Exam (8) + Pretest	10%	A	90 – 100%
Labs	50%	B	80 – 89.9%
Final Exam (comp, two parts)	15%	C	70 – 79.9%
Skill Assessment (comp)	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	Date	Topic	Reading Assignment	Lab Assignment
1	October 16th	1. WAN Concepts 2. Point-to-Point Connections	Chapter 1 Chapter 2	4.2.2.12 PT 4.4.2.11 PDF 2.1.2.5 PT 2.3.2.7 PDF 2.5.1.2 PT 2.4.1.5 PDF
2	October 23rd	3. Branch Connections	Chapter 3	3.6.1.2 PT 3.6.1.3 PDF 3.4.2.4 PT 3.2.2.7 PDF
3	October 30th	4. Access Control Lists	Chapter 4	4.2.2.13 PDF 4.5.1.1 PT 4.3.2.7 DFT 4.4.2.9 PT 4.4.2.10 PT
4	November 6th	5. Network Security and Monitoring	Chapter 5	5.2.2.6 PDF 5.3.2.3 PDF 5.3.3.3 PDF 4.3.2.6 PT 4.2.2.10 PT
5	November 13th	6. Quality of Service	Chapter 6	4.2.2.11 PT 2.3.2.6 PT 2.4.1.4 PT 3.4.2.6 PDF 3.5.3.5 PDF
6	November 20th	4. Network Evolution	Chapter 7	8.2.4.12 PT 3.4.2.5 PT 3.5.3.4 PT 3.2.2.8 PDF
7	November 27th	7. Network Troubleshooting	Chapter 8	8.1.1.8 PT 8.2.4.13 PT 8.2.4.14 PT 8.2.4.15 PT 8.2.1.5 PDF
8	December 4th	Final Skill Exam: Skill Assessment (comp), In classroom Final Exam Part I, Part II.	Netlab+	6:00-9:50 PM RC-350
			Academy, Part II JCCC Canvas	

**Assessment Information:**

**Chapter Exams:** Ch1-Ch 8 are done using JCCC Canvas, two attempts, taken from the Academy chapter quizzes and chapter exams, at your convenient. Pretest one attempt, 35 problems.

**Cisco Final:** Part I Ch1-Ch8 (5 %) one attempt using Cisco Canvas; Part II (10%) JCCC canvas, taken from the chapter quizzes and chapter exams.

**Skill Assessment:** 25% using Netlab done in the classroom.