Moberly Area Community College
Common Syllabus

ITC 231: Enterprise Networking
Current Term

Instructor:
Office number:
Office hours:
Response time: I typically respond to student emails within 24 hours, Monday through Friday.
Contact information:
Classroom number:
Class days and time:

Catalog Description: ITC 231 Enterprise Networking (3-0-3)
Students develop workforce readiness skills and build a foundation for success in networking-related careers. Through hands-on activities and labs, students learn enterprise networking, security and automation technologies in preparation for the Cisco CCNA certification exam.

Prerequisite/Co-requisite: ITC 230 Wireless and Switching Essentials


Other Required Materials: The instructor will create accounts for students at NetAcad.com
One (1) 64 GB Jump/Flash/Pen Drive/Memory Stick.
Virtual Participants - 1 Set, Personal Headphones with microphone
or Duet PCS Desktop Speakerphone (required)

Purpose of Course:
The third course in the CCNAv7 curriculum describes the architectures and considerations related to designing, securing, operating, and troubleshooting enterprise networks. This course covers wide area network (WAN) technologies and quality of service (QoS) mechanisms used for secure remote access. ENSA also introduces software-defined networking, virtualization, and automation.
concepts that support the digitalization of networks. Students gain skills to configure and troubleshoot enterprise networks, and learn to identify and protect against cybersecurity threats. They are introduced to network management tools and learn key concepts of software-defined networking, including controller-based architectures and how application programming interfaces (APIs) enable network automation.

By the end of the course, students will be able to:

- Configure Single-Area OSPFv2 and OSPFv3.
- Configure ACLs for IPv4.
- Implement NAT for IPv4.
- Understand WAN Concepts.
- Explain how VPNs and IPsec secure WAN connections.
- Understand the concepts of QoS.
- Implement protocols to manage the network
- Use CDP, LLDP, configure NTP client and server.
- Explain SNMP and Syslog operations
- Perform an upgrade of an IOS system image.
- Design a network using hierarchical model that is scalable.
- Describe the network hardware of switches and routers.
- Troubleshoot Networks
- Explain the purpose and characteristics of network virtualization
- Explain cloud computing
- Describe the virtualization of network devices and services
- Describe software-defined networking
- Explain how network automation is enabled through RESTful APIs and configuration management tools

This instructor-led course is the 3rd of 3 courses in the Cisco CCNAv7 curriculum. The course includes activities using Packet Tracer, hands-on lab work, and a wide array of assessment types and tools.

**Course Content:**

1. Single-Area OSPFv2 Concepts
2. OSPFv2 configuration
3. Network Security Concepts
4. ACL Concepts
5. ACLs for IPv4 Configuration
6. NAT for IPv4
7. WAN Concepts
8. VPN and IPsec Concepts
9. QoS Concepts
10. Network Management
11. Network Design
12. Network Troubleshooting
13. Network Virtualization
14. Network Automation

Connection with Career and Technical Education (CTE) Outcome Statement:
In compliance with MACC’s CTE outcomes, the student who completes this course will be able to:

- Students will demonstrate effective written and oral communication;
- Students will think critically while systematically assessing problems, identifying issues, and implementing solutions.
- Students will demonstrate skill mastery and will pursue lifelong learning in their field while adapting to changing industry standards and following evidence-based practices.

Expected Study Time Commitments:
Students should expect to spend approximately 2 to 4 hours per week studying, reading, and working on assignments for each registered credit hour. For example, 6 to 12 study hours per week may be expected for a 3-credit hour class.

ASSESSMENT OF STUDENT LEARNING

Grade Scale:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Percentage</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
</tr>
<tr>
<td>B</td>
<td>80-89%</td>
</tr>
<tr>
<td>C</td>
<td>70-79%</td>
</tr>
<tr>
<td>D</td>
<td>60-69%</td>
</tr>
<tr>
<td>F</td>
<td>59% and below</td>
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</tbody>
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A grade of “C” or higher must be achieved in all required ITC courses (prefix “ITC”) for all IT AAS degrees and certificates.

Assessment:
(State the way learning outcomes will be measured. They may be measured through, but not limited to, the following: objective and essay questions, papers, quizzes, oral presentations, class participation, small group work, and/or projects.)

Description of Assignment(s)/Project(s):

INSTRUCTOR POLICIES

Tardiness:
per instructor’s policy
Make-up and late work:  
per instructor’s policy

Extra-credit work:  
per instructor’s policy

Schedule of Student Assignments/Activities:  
(Instructors will identify a Student Assignment/Activities schedule. Instructors have the prerogative to construct the schedule by class periods, weeks, or an overview of topics to be covered.)

Other:  
List any other instructor policies

COLLEGE POLICIES

Attendance:  
Students are expected to attend all class sessions for which they are enrolled. The College reserves the right to drop or withdraw students from courses due to lack of attendance.

Students need to be aware that dropping/being dropped from a course and their last date of attendance in the course may impact their financial aid.

MACC faculty are required to track attendance and report lack of attendance. An instructor must complete the appropriate steps to drop a student within one week following the student’s violation of the attendance policy. Additionally, a student’s attendance rate will be calculated based upon the first day the academic session begins (not the student’s date of enrollment in the course). If a student does not attend a course as defined below, the student will be dropped as “Never Attended.”

Term Length Drop Calculations

16-week: Any student who misses two (2) consecutive weeks of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.

8-week: Any student who misses one (1) consecutive week of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.

4-week: Any student who misses two (2) consecutive days of class will be dropped from the course by the instructor unless acceptable justification is
provided by the student and the student still has the opportunity to be successful in the course.

**Intersession:** Any student who misses one (1) day of class will be dropped from the course by the instructor unless acceptable justification is provided by the student and the student still has the opportunity to be successful in the course.

Acceptable justification may include, but is not limited to, family emergencies, illness or injury, college-approved co-curricular and extra-curricular activities, and religious holidays.

**Definition of Course Attendance**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>In Seat</td>
<td>Physically attending scheduled, face-to-face, class meetings</td>
</tr>
<tr>
<td>Virtual</td>
<td>Being present, via appropriate platform, for scheduled class meetings/activities</td>
</tr>
</tbody>
</table>
| Hybrid       | Physically attending scheduled, face-to-face, class meetings and active participation in the online portion of the course which may include any or all of the following:  
  • Completion of quizzes or exams during class meetings and online  
  • Submission of assignments during class meetings and online  
  • Participation in discussions during class meetings and online |
| Online       | Active participation in an online course includes the following:  
  • Completion of quizzes or exams  
  • Submission of assignments  
  • Participation in threaded discussions |

Simply logging into the Learning Management System (Canvas) and/or accessing the course and course related material does not constitute active participation for the online component of hybrid courses or for online courses. (*Policy Handbook, G.040*)

**Academic Dishonesty:**

MACC board policy is as follows: “Academic dishonesty by students damages institutional credibility and unfairly jeopardizes honest students; therefore, it will not be tolerated in any form.” Forms of academic dishonesty include but are not limited to the following: violations of copyright law, plagiarism, fabrication, cheating, collusion, and other academic misconduct. Incidents of dishonesty regarding assignments, examinations, classroom/laboratory activities, and/or the submission of misleading or false information to the College will be treated seriously. The procedure for handling academic dishonesty is outlined in the Student Handbook.
(Policy Handbook G.020). In cases of alleged academic dishonesty, the burden of proof is on the student, not on the instructor.

**Recording Class Sessions Using Zoom:**
The privacy of students is a priority in live or virtual meetings. Recordings of lectures or class meetings that share student information constitute an educational record and are protected under FERPA. Instructors may share recordings within the course section where they were originally recorded and only with the students enrolled in the section. Documented consent from each student identified in the recording is required to distribute outside of the course where it was originally recorded, or student identity must be redacted.

**Student Email:**
MACC Mail is the official student email system at MACC. Official college communication is sent via this email system. Students are responsible for checking their MACC Mail account regularly. Students may also receive notifications and reminders from MACC through the online learning platform. However, students should remain aware that the online learning platform messaging system and MACC Mail (student email) system are two separate systems.

**ADA Statement:**
Students who have disabilities that qualify under the Americans with Disabilities Act may register for assistance through the Office of Access and ADA Services. Students are invited to contact the Access Office to confidentially discuss disability information, academic accommodations, appropriate documentation and procedures. For more information, please call either the Moberly office at (660) 263-4100 Ext. 11240 or the Columbia office at (573) 234-1067 Ext. 12120, or visit our web page at [http://www.macc.edu/index.php/services/access-office](http://www.macc.edu/index.php/services/access-office).

**Title IX Statement:**
MACC maintains a strict policy prohibiting sexual misconduct in any form, including sexual harassment, sexual discrimination, and sexual violence. All MACC employees, including faculty members, are considered mandated reporters of sexual misconduct and as such are expected to contact the Title IX Coordinator when they become aware, in conversation or in writing, of an incident of sexual misconduct. For more information on this policy or to learn about support resources, please see [http://www.macc.edu/sexual-misconduct-policy](http://www.macc.edu/sexual-misconduct-policy) or contact Ms. Cheryl Lybarger, MACC's Title IX Coordinator, at 660-263-4110, ext. 11369 or CherylLybarger@macc.edu.