

**Information Technology and Administrative Management Department**  
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**ITAM**

**Information Technology &  
Administrative Management**

Central Washington University

**IT 351**  
**Computer Networks**  
**Course Syllabus - 3 credits**



Dr. David Rawlinson

**Office:** Shaw-Smyser - 236

**Office Hours:** Varies by quarter. Call or e-mail instructor

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**Course Description:** Personal computer network communications including: Networking Basics; LAN Topologies, LAN Protocols; Network Operating Systems and basic network security.

**Course Objective:** All information technology professionals must be knowledgeable in computer networking technologies and infrastructure. This course will cover the use of computer networks, network hardware, network software, reference models, example networks and network standardization. The course content is based upon the Open Systems Interconnection Reference Model developed by the International Standards Organization, with the addition of material regarding network security. The outcomes of this course are consistent with the mission of Central Washington University, "by teaching we learn;" the mission of the College of Education and Professional Studies, "to prepare enlightened leaders for the professions and for society;" and the mission of the Information Technology and Administrative Management Department, "to produce competent, confident, and independent lifelong learners for a diverse world through a caring, creative, supportive, and technologically rich learning environment."

**Specific Learner Outcomes:**

1. Demonstrate an understanding of the uses of computer networks
2. Demonstrate an understanding of the uses of network hardware, including the use of hubs, switches, and routers.
3. Demonstrate an understanding of the uses of network software, including networking operating systems
4. Demonstrate an understanding of each layer of the ISO/OSI Reference Model, including physical, datalink, network and application protocols
5. Demonstrate an understanding of the functionality of each layer of the TCP/IP Reference Model compared with the ISO/OSI Reference Model
6. Demonstrate an understanding of major components of computer networks, based upon the ISO/OSI Reference Model
7. Demonstrate an understanding of computer network security issues

**Course Topics:**

Introduction to Computer Networks  
Network Standards and the OSI model  
Transmission Basics and Media  
Network Protocols  
Network Hardware  
Topologies and Access Methods  
WANs, Internet Access and Remote Connectivity  
Network Operating Systems and Windows Server 2003 networking  
Networking UNIX  
TCP/IP Networking  
Troubleshooting Network Problems  
Ensuring Integrity and Availability  
Network Security

**Textbook and other required materials:** *Network + Guide for Networks*, Tamara Dean, 4<sup>th</sup> Ed. (or most recent, contact instructor). Additionally, instructor reserves the right to hold one or more classes on Blackboard during the quarter. Therefore, broadband Internet access and knowledge of the use of Blackboard is required.

**Instructional Methods and Activities:**

This course employs instructor lecture, various assignments, instructor feedback, the use of Blackboard online course application and two examinations.