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ITS 212.01: Network OS - Server Administration

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ITS 212
*Network Operating Systems:
Server Administration*
Autumn 2018

Professor Information

Professor: Zachary L. Rossmiller, MBA (MCSE, MCSA, MS, MCP, Security+, A+, Net+, ITIL v3)
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Office: Liberal Arts #031 (Mountain Campus)
Office Hours: Available by appointment

Course Information

Time: 8:00 AM – 9:50 AM
Days: Tuesdays and Thursdays
Location: MC #025
Section: 01
Credits: 3
Grading Mode: Traditional letter grade
Final Exam: None
Pre-requisites: ITS 150 – CCNA 1
ITS 210 – Network OS – Desktop

UM Course Description

ITS 212 studies server technologies commonly used in local area networking. Topics include installation, administration, storage, application services, network services, security, reliability, and availability.

Course Overview

ITS 212 examines server applications generally used in enterprise environments. Topics include installation and administration of file systems, printing services, DNS, DHCP, Active Directory, Group Policy, and implementing server virtualization with Hyper-V. This class stems partially from the Microsoft 70-410 certification. We will dive into many different topics that will prepare you as a Server Administrator in an enterprise environment. There will be a blend of Windows server administration and Linux server administration to prepare you for the role as IT Server Administrator.

Course Structure

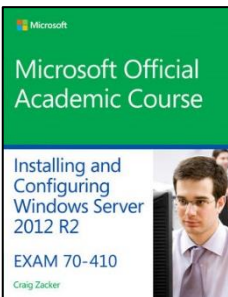
ITS 212 combines classroom-based activities with independent, self-directed, lab experiences. The lab component for the course will provide students the opportunity to apply server technologies commonly used by professionals in the IT field. This is a major-specific course for students with a networking emphasis. My goal is to give you experience with server structure and management so that when you enter the workforce, you already have skills that set you apart from other candidates who only have a textbook understanding of servers. I emphasize real-world application of the material so you have a practical appreciation of the information.

Course Learning Objectives

Upon completion of this course, students will be able to:

- Students will be familiar with server planning, deployment, migrating, configuring, and management tasks.
- Students will manage, configure, and troubleshoot disk storage systems.
- Students will manage, configure, and troubleshoot printing services.
- Students will configure servers for remote management and utilize server management tools and utilities.
- Students will configure virtual machines settings, storage, and networks.
- Students will understand terminology and concepts regarding IPv4.
- Students will learn the important roles of DHCP, DNS, and Domain Controllers and how the three affect day-to-day operations of a systems administrator.
- Students will learn the important roles of Active Directory and Group Policy.
- Students will have a basic understanding of Linux Server Administration.

Required Course Materials



Etext: 70-410 R2 MOAC Labs Online EOAR with 70-410 Installing and Configuring Windows Server 2012 R2 Wiley eText Digital Set. Zacker, Craig. Wiley & Sons, 2014. ISBN : 978-1-118-96620-4

<http://www.wiley.com/WileyCDA/WileyTitle/productCd-EHEP003082.html>

Paperback: 70-410 Installing and Configuring Windows Server 2012 R2 with MOAC Labs Online Reg Card Set. ISBN : 978-1-118-96611-2

Grading Course Activities

Moodle will be used to post grades.

| Activity | | |
|----------------------|---------------|-------------|
| Course Exams | | |
| Exam 1 | 105 | |
| Skills Exam | 100 | |
| Exam 3 | 105 | |
| Exam 4 | 105 | |
| Final Exam | 240 | |
| | | |
| Exam Subtotal | 655 | 30% |
| | | |
| Homework Assignments | 380 | 25% |
| Lab Assignments | 410 | 20% |
| Quizzes | 140 | 15% |
| Attendance | | 10% |
| | | |
| Total | 1,585* | 100% |

| Grading Scale: | Letter Grade: |
|-----------------|---------------|
| 100 – 93.00% | A |
| 92.99% - 90.00% | A- |
| 89.99% - 87.00% | B+ |
| 86.99% - 83.00% | B |
| 82.99% - 80.00% | B- |
| 79.99% - 77.00% | C+ |
| 76.99% - 73.00% | C |
| 72.99% - 70.00% | C- |
| 69.99% - 67.00% | D+ |
| 66.99% - 60.00% | D |
| 59.00% - 0.00% | F |

*This will be based on time remaining in the semester. Announcements will be made in class. Always check Moodle for the latest version!

Exams (30%)

There will be three (3) exams throughout the semester (not including the Final Exam). The exams will cover material from the labs, lectures, readings, and textbooks. Each exam will have thirty-five questions, worth three points each (105 total). There will be one skills exam, where you will be asked to perform certain tasks and demonstrate successful completion of the activity. We will go over this in detail after Exam 1. Study guides will be made available for the students and we will have a designated day for review before the exam.

Final Exam

The final exam is comprehensive and will be given in two parts – a written section and multiple choice. A comprehensive study guide will be made available when we finish the last exam for the class.

Lab Assignments (20%)

We will do the labs in class and the labs will be due the following week at 8:00 AM (before the next lab) unless stated otherwise. With each lab, you will need to fill out the lab worksheet and answer the lab questions. You will have a blank template and you will be required to fill it out. All lab assignments are to be submitted via Moodle.

Lesson Assignments (15%)

As we cover each chapter in the textbook I will assign review questions over the material. These will be assigned as we work through each chapter. I expect them to be typed with proper formatting. Normally, all homework assignments will be due the day of the exam. All lesson assignments are to be submitted via Moodle.

Quizzes (10%)

There will be fourteen (14) quizzes throughout the semester. The quizzes will be worth ten points each, and will be relevant to what we are learning during that particular day or week. Quizzes will be made available as soon as that material has been covered and will be due by the next scheduled class meeting unless I state differently on Moodle or in class. Quizzes will be a 25-minute quiz that will be taken outside of class on Moodle and may take the form of a multiple choice, true/false, and matching definitions. Make up quizzes will not be given.

Classroom Behavior Expectations

Attendance Policy

Attendance is mandatory, meaning that students are expected to attend all class meetings and complete all assignments for this course. Class will start on time. Students are expected to be seated when class begins.

Attendance will be taken on a random basis. The professors may take attendance at any time during the class session. ***Students are considered to be in attendance (or absent) when the professor takes attendance.*** If you are not in your assigned class seat when attendance is taken, you will not be given credit for attending that day. If you need to leave class early, which is not recommended, please notify the professor at the beginning of class. Failure to do so may result in the loss of attendance for that day.

The professors understand there will be times when personal issues, such as medical issues and family emergencies, are unavoidable and take priority. Therefore, ***each student will be allowed three (3) absences without penalty.*** Students do not need to contact the professors to explain an absence. If you are absent, it is your responsibility to obtain missed material from your peers, so establish contact with other students in the class immediately.

Since students are allowed three absences, there is no such thing as an “excused” absence. If for any reason (including health issues supported by a doctor’s note) more than three absences occur during the course of the semester, the student may receive a penalty at the professor’s discretion.

If a student is absent for an exam or other activity for which points are earned, no make-up will be available. Nonetheless, the professor may consider, for example, an official doctor's note (the veracity of which may be checked by a phone call to the writer of the note) as sufficient reason for a student to make up missed exams or other gradable activities when it can be accomplished in a manner consistent with the educational goals of this course.

Personal Electronic Devices

It is considered rude, distracting, and unprofessional to use personal electronic devices (e.g., cell phones, iPads, iPods) during business meetings. Therefore, personal electronic devices are prohibited during class. Putting your device, for instance, on "vibrate" or "silent" mode is insufficient, as it is difficult to avoid the temptation to check your device. ***Prior to entering the classroom, turn off and stow all personal electronic devices. Keep your devices off at all times.***

Email

According to University policy, faculty may only communicate with students regarding academic issues via official UM email accounts. Accordingly, students must use their UM accounts. Email from non-UM accounts will likely be flagged as spam and deleted without further response. To avoid violating the Family Educational Rights and Privacy Act, confidential information (including grades and course performance) will not be discussed via phone or email. All email communications should be professional in tone and content. A professional email includes a proper salutation, grammar, spelling, punctuation, capitalization, and signature. Please check your UM email daily so you won't miss important class and UM announcements.

Exam Conduct

Students must take exams on their regularly scheduled days unless they have an excused absence. Excused absences ONLY include (1) University-approved absences, (2) documented health emergencies, (3) civil service such as military duty and jury duty, and (4) other emergencies deemed appropriate by the instructor. In all cases, the instructor must be notified prior to the exam unless the emergency makes such notification infeasible. During the exam, you may not leave the room for any reason. Doing so results in the conclusion of that student's exam. Electronic dictionaries, cell phones, tablets, laptops, notes, smart watches, or other assistive items are not allowed.

Academic Misconduct

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. [The Code is available for review online.](#)

Plagiarism

Plagiarism will not be tolerated. If I suspect plagiarism, I will notify both the student(s) and the department chair as I investigate the situation. Assignments involving plagiarism will receive a 0. Make sure as you complete your assignments that everything is in your own words. Please do not copy material from other students. For more information on plagiarism, please visit: <http://libguides.lib.umt.edu/plagiarism>

Student Resources

Disability Services for Students

Students with disabilities will receive reasonable modifications in this course. The student's responsibilities are to request them from me with sufficient advance notice and to be prepared to provide official verification of disability and its impact from Disability Services for Students. Please speak with me after class or during my office hours to discuss the details. For more information, visit the website for the office of [Disability Services for Students](#) (found online at <http://www.umt.edu/dss/>).

Course Schedule

Since the course schedule is tentative and subject to change throughout the semester, it has been posted as a separate document on Moodle. The course schedule can be located on Moodle under *Course Schedule*. Please refer to the course schedule on a weekly basis to stay abreast of upcoming course events, lecture materials, and assigned readings.

Syllabus Revision

Instructor reserves the right to modify syllabi and assignments as needed based on faculty, student, and/or environmental circumstances. If changes are made to the syllabus, amended copies will be dated and made available to the class through Moodle.

Last Revised: August 25, 2018

Topic Outline

1. Unit 1 – Introduction to Windows Servers
 1. Lesson 1 - Installing Servers
 2. Lesson 2 - Configuring Servers
 3. Lesson 3 - Configuring Local Storage
 4. Lesson 4 - Configuring File and Share Access
 5. Lesson 5 - Configuring Print and Document Services
 6. Lesson 6 - Configuring Servers for Remote Management

2. Unit 2 – Server Virtualization Using Hyper-V
 1. Lesson 7 - Creating and Configuring Virtual Machine Settings
 2. Lesson 8 - Creating and Configuring Virtual Machine Storage
 3. Lesson 9 - Creating and Configuring Virtual Networks

3. Unit 3 – Advanced Windows Server Technologies
 1. Lesson 10 - Configuring IPv4 and IPv6 Addressing
 2. Lesson 11 - Deploying and Configuring DHCP Service
 3. Lesson 12 - Deploying and Configuring DNS Service
 4. Lesson 13 - Installing Domain Controllers
 5. Lesson 14 - Creating and Managing Active Directory Users and Computers
 6. Lesson 15 - Creating and Managing Active Directory Groups and Organizational Units
 7. Lesson 16 - Creating Group Policy Objects

4. Unit 4 – Introduction to Linux Server Administration
 1. Linux Lesson #1 – Introduction to Linux
 2. Linux Lesson #2 – Linux Server Distributions
 3. Linux Lesson #3 – The Open-Source NAS Project
 4. Linux Lesson #4 – Remote Administration Tools