CNT 4603: System Administration

Department of Computer Science, CECS

3 Credit Hours

Instructor Information

- Instructor: Dr. Mark Llewellyn
- Office Location: HEC 236
- Office Hours: Monday & Wednesday 1:30-3:30pm, Tuesday & Thursday 10:30-11:30am, others by appointment
- Phone: 407-823-2790
- Digital Contact: markl@cs.ucf.edu or mark.llewellyn@ucf.edu

Teaching Assistants

- GTA(s): TBD
- Email:

Course Information

- Term: Spring 2020
- Course Number & Section: CNT 4603.0W61
- Course Name: System Administration
- Credit Hours: 3
- Class Meeting Days: Online
- Class Meeting Time: Online
- Class Location: NA
- Course Modality: W

Enrollment Requirements

Course Prerequisites: CGS 3763 (Operating System Concepts
Course Co-requisites: None

Other Enrollment Requirements: None

Course Description

An examination of operating systems and applications installation, configuration, and maintenance, including client-server services, content management and deployment, server administration and management, and user/group management.

Course Materials and Resources

Required Materials/Resources

- There are no required textbooks for this course. I will place a number of different resources in each course module, primarily PowerPoint presentations, but other resources as I develop more of the course. I will also provide a number of different online resources that will provide additional information and details that will assist you in the projects.
- Several of the projects will require that you create and administer a virtual network of server and client computer systems. As such it will be required that you have access to a desktop or laptop computer with a minimum of 16GB of RAM capable of supporting up to four virtual systems running simultaneously. Less than 16GB of RAM may work, but your system will probably become frustrating slow with limited memory. The projects are not amenable to tablets.

Optional Materials/Resources

- None

Student Learning Outcomes

The goals and objectives of this course are:

1. Be able to perform basic system administration tasks on Windows Server 2019 based server systems.
2. Be able to define, install, and maintain system security policies under Server 2019.
3. Be able to write simple professional scripts geared toward system administration activities in Windows PowerShell and Python.
4. Be familiar with Active Directory under Windows Server 2019.
5. Design and analyze Active Directory designs and infrastructures.
6. Be familiar with user administration tasks commonly performed by system administrators.
7. Be able to perform feasibility studies to determine the cost effectiveness of IT decisions in the area of system components to support virtualization environments.

The primary course topics, designed to help you achieve the course objectives listed above, are:

1. Hardware/Software Virtualization – focusing primarily on server OS virtualization.
2. Windows Server 2019 under Active Directory.

3. System Administration tasks, such as user account management, file management, system-level backups, OS patching, scripting, capacity planning, forecasting, trouble-shooting.
4. PowerShell scripting.
5. Python scripting.
6. Policy Management.
7. Server OS security.
8. Linux System Administration (time permitting).

Course Activities

- This is a project-oriented course. There are no exams for this course.
- You will complete a number of different projects each of which is designed to provide you some hands-on exposure to various tasks that system administrators encounter on a daily basis.
- Projects will vary in range and scope throughout the course.
- All of the projects are to be done individually. There are no group projects.
- Several of the projects will require that you create and administer a virtual network of server and client computer systems. As such it is recommended that you have access to a desktop or laptop computer with a minimum of 16GB of RAM capable of supporting up to four virtual systems running simultaneously.
- Projects will be awarded a varying number of points, reflective of their complexity.

Project Submissions

- All project assignments will be submitted via WebCourses by 11:59pm on or before their respective due dates.
- Each assignment will include a two-day late submission period. During this late submission period you may still submit your assignment, however points will be deducted for missing the assignment deadline. Up to 24 hours late, will result in a 15% reduction in points. More than 24 hours late (up to 48 hours late) will result in a 30% reduction in points.
- At the end of the late submission period (48 hours after the original submission deadline), the assignment will be locked and no further submissions will be possible.

Attendance/Participation

This is a web-based course, as such, there is no attendance requirement.

Make-up Exams and Assignments Policy

Per university policy, you are allowed to submit make-up work (or an equivalent, alternate assignment) for university-sponsored events, religious observances, or legal

obligations (such as jury duty). If this participation conflicts with your course assignments, I will offer a reasonable opportunity for you to complete missed project deadlines. Please contact me ahead of time to notify me of upcoming needs.

Assessment and Grading Procedures

Project Weights: Each project will be assigned a number of points, reflective of the project's complexity and time requirements. For example, project 1 might have a maximum possible score of 20 points, and project 2 might have a maximum possible score of 100 points.

All of your individual project scores will be summed and your course grade will be determined as a percentage of the maxiumum possible points attainable according to the table below. Plus/minus grading will not be used in this course.

Note: The failure to submit a project will result in a zero score for that project and an additional one letter grade reduction of your final course grade for each project without a submission over the course of the semester. For example if your final grade percentage is 83.5% and you failed to submit project 3, your final course grade would be a C, not a B. If you also failed to submit project 7, then your final course grade would drop to a D.

Course Grade

Percentage of Maximum Points	Course Grade
90% and above	A
80% up to 90%	B
70% up to 80%	C
60% up to 70%	D
Less than 60%	F

Course Schedule

The course schedule will be developed as the semester progresses. Follow the course closely by checking the WebCourses Calendar page daily. Any changes to the schedule or project due dates will be reflected here. In addition, any changes to project due dates or project requirements would be provided via a WebCourses Announcement as well.

Policy Statements

Academic Integrity

Students should familiarize themselves with [UCF's Rules of Conduct](#). According to Section 1, "Academic Misconduct," students are prohibited from engaging in:

- *Unauthorized assistance*: Using or attempting to use unauthorized materials, information or study aids in any academic exercise unless specifically authorized by the instructor of record. The unauthorized possession of examination or course-related material also constitutes cheating.
- *Communication to another through written, visual, electronic, or oral means*: The presentation of material which has not been studied or learned, but rather was obtained through someone else's efforts and used as part of an examination, course assignment, or project.
- *Commercial Use of Academic Material*: Selling of course material to another person, student, and/or uploading course material to a third-party vendor without authorization or without the express written permission of the university and the instructor. Course materials include but are not limited to class notes, Instructor's PowerPoints, course syllabi, tests, quizzes, labs, instruction sheets, homework, study guides, handouts, etc.
- *Falsifying or misrepresenting* the student's own academic work.
- *Plagiarism*: Using or appropriating another's work without any indication of the source, thereby attempting to convey the impression that such work is the student's own.
- *Multiple Submissions*: Submitting the same academic work for credit more than once without the express written permission of the instructor.
- *Helping another violate* academic behavior standards.

For more information about Academic Integrity, students may consult [The Center for Academic Integrity](#).

For more information about plagiarism and misuse of sources, see "[Defining and Avoiding Plagiarism: The WPA Statement on Best Practices](#)".

Responses to Academic Dishonesty, Plagiarism, or Cheating

Students should also familiarize themselves with the procedures for academic misconduct in UCF's student handbook, [The Golden Rule.](#) UCF faculty members have a responsibility for students' education and the value of a UCF degree, and so seek to prevent unethical behavior and when necessary respond to academic misconduct. Penalties can include a failing grade in an assignment or in the course, suspension or expulsion from the university, and/or a "Z Designation" on a student's official transcript indicating academic dishonesty, where the final grade for this course will be preceded by the letter Z. For more information about the Z Designation, see http://goldenrule.sdes.ucf.edu/zgrade.

Course Accessibility Statement

The University of Central Florida is committed to providing access and inclusion for all persons with disabilities. Students with disabilities who need disability-related access in this course should contact the professor as soon as possible. Students should also connect with [Student Accessibility Services](#) (Ferrell Commons 185, [sas@ucf.edu](#), phone (407) 823-2371). Through Student Accessibility Services, a Course Accessibility Letter may be created and sent to professors, which informs faculty of potential access and accommodations that might be reasonable.Determining reasonable access and accommodations requires consideration of the course design, course learning objectives and the individual academic and course barriers experienced by the student.

Campus Safety Statement

Emergencies on campus are rare, but if one should arise in our class, everyone needs to work together. Students should be aware of the surroundings and familiar with some basic safety and security concepts.

- In case of an emergency, dial 911 for assistance.
- Every UCF classroom contains an emergency procedure guide posted on a wall near the door. Please make a note of the guide's physical location and consider reviewing the online version at http://emergency.ucf.edu/emergency_guide.html.
- Students should know the evacuation routes from each of their classrooms and have a plan for finding safety in case of an emergency.
- If there is a medical emergency during class, we may need to access a first aid kit or AED (Automated External Defibrillator). To learn where those items are located in this building, see http://www.ehs.ucf.edu/workplacesafety.html (click on link from menu on left).
- To stay informed about emergency situations, sign up to receive UCF text alerts by going to my.ucf.edu and logging in. Click on "Student Self Service" located on the left side of the screen in the tool bar, scroll down to the blue "Personal Information" heading on your Student Center screen, click on "UCF Alert," fill out the information, including your e-mail address, cell phone number, and cell phone provider, click "Apply" to save the changes, and then click "OK."
- Students with special needs related to emergency situations should speak with their instructors outside of class.
- To learn about how to manage an active-shooter situation on campus or elsewhere, consider viewing this video. [You CAN Survive an Active Shooter](#)

Deployed Active Duty Military Students

If you are a deployed active duty military student and feel that you may need a special accommodation due to that unique status, please contact your instructor to discuss your circumstances.

Copyright

This course may contain copyright protected materials such as audio or video clips, images, text materials, etc. These items are being used with regard to the Fair Use doctrine in order to enhance the learning environment. Please do not copy, duplicate, download or distribute these items. The use of these materials is strictly reserved for this online classroom environment and your use only. All copyright materials are credited to the copyright holder.

Third-Party Software and FERPA

During this course you might have the opportunity to use public online services and/or software applications sometimes called third-party software such as a blog or wiki. While some of these could be required assignments, you need not make any personally identifying information on a public site. Do not post or provide any private information about yourself or your classmates. Where appropriate you may use a pseudonym or nickname. Some written assignments posted publicly may require personal reflection/comments, but the assignments will not require you to disclose any personally identity-sensitive information. If you have any concerns about this, please contact your instructor.