

## **Syllabus**

**Course Title: Systems Administration**

**Course Number: CIT 452**

### **Course Description:**

Introduces operating systems concepts and system administration tasks, including software installation, system configuration, and managing user accounts. Emphasizes server administration and management, user and group management, backup, security, resource, and automation management.

### **Prerequisite Courses:**

Prerequisite(s): CIT 316 and CS 336.

### **Course Overview**

The goal of this course is to provide you, the student, with an overview of the administration of UNIX/Linux systems. UNIX/Linux are powerful and mature operating systems that are still heavily used in many organizations. To be successful in this course, it will be necessary to thoroughly read and comprehend all the reading assignments as well as completing all assigned labs.

Key concepts covered in this course include:

- UNIX/Linux system administration
- UNIX/Linux process control and administration
- UNIX/Linux file system and disk management
- User management
- Network management
- Security management

### **Course Outcomes:**

Upon completion of this course, learners should be able to:

- Identify the relationship between the UNIX/Linux kernel, the shell, system programs, user programs, and the UNIX/Linux file hierarchy.
- Describe the mechanisms controlling user access to UNIX/Linux systems.

- Configure and control a UNIX/Linux system, the networking interfaces, and system resources.
- Examine the methods available for inter-process communication.
- Recognize the ethical and professional issues relating to advanced system usage and privileged access to system resources.
- Examine the role of encryption in protecting user account information and general user data.
- Identify the resource relationships and general operation of client/server applications

## Course Materials:

### *Required Texts:*

Nemeth, E., Snyder, G., Hein., T. & Whaley, B. (2011). *Unix and Linux system Administration Handbook* (4th ed.). Ann Arbor: MI: Prentice Hall – Person Education. ISBN – 13: 978-0-13-148005-6

American Psychological Association. (2010). *Publication Manual of the American Psychological Association* (6th ed.). Washington, DC: American Psychological Association. ISBN 1433805618, 978-1433805615. Companion website: <http://www.apastyle.org>.

### *Technology Tools:*

Minimum Technology Requirements: <http://www.regis.edu/CPS/CPS-Student-Portal/College-for-Professional-Studies/Academic-Resources/Online-Learning/System-Requirements.aspx>.

## Pre-Assignment:

**Online Format:** Sign on to D2L (Home Page) and become familiar with the course navigation of the Web Curriculum. Read chapters 1 & 2 from the textbook,

**Classroom-based Format:** Sign on to D2L (Home Page) and become familiar with the course navigation. Read chapters 1 & 2 from the textbook,

## Pre-Assignment Due Dates:

**Classroom-based Format:** This assignment is due the first night of class.

**Online Format:** This assignment is due the first night of class.

## Course Assignments and Activities:

	Topics	Readings	Activities Assignments and Associated Points
1	UNIX Overview/philosophy, Basics, and Shells	Text : Chapters 1 & 2	Class Discussion: <ul style="list-style-type: none"> <li>• Introductions</li> <li>• Discussion 1 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Lab 1 (100 pts)</li> </ul>
2	Administrator Duties and Powers	Text: Chapter 3, 4 & 7	Class Discussion: <ul style="list-style-type: none"> <li>• Discussion 2 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Lab 2 (100 pts)</li> </ul>
3	UNIX/Linux Processes and Process Management	Text: Chapters 5 & 9	Class Discussion: <ul style="list-style-type: none"> <li>• Discussion 3 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Lab 3 (100 pts)</li> </ul>
4	UNIX/Linux File System and Storage Management	Text: Chapters 6, 8 & 18	Class Discussion: <ul style="list-style-type: none"> <li>• Discussion 4 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Lab 4 (100 pts)</li> <li>• Midterm Exam (100 pts)</li> </ul>
5	System Installation and Management	Text: Chapters 10, 11, &12	Class Discussion: <ul style="list-style-type: none"> <li>• Discussion 5 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Lab 5 (100 pts)</li> </ul>
6	Network Management	Text : Chapters 14, 17, & 21	Class Discussion: <ul style="list-style-type: none"> <li>• Discussion 6 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Lab 6 (100 pts)</li> </ul>
7	Virtualization and Web Hosting	Text : Chapters 23 & 24	Class Discussion: <ul style="list-style-type: none"> <li>• Discussion 7 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Lab 7 (100 pts)</li> </ul>
8	Security, Data Center Management, and Policy	Text : Chapters 22, 27, & 32	Class Discussion: <ul style="list-style-type: none"> <li>• Discussion 8 (25 pts)</li> </ul> Written Assignment: <ul style="list-style-type: none"> <li>• Final Exam (100 pts)</li> </ul>
			<b>Maximum Points Possible: 1100</b>

## Course Policies and Procedures:

### CC&IS Grading Scale

Letter Grade	Percentage	Grade Point
A	93 to 100	4.00
A–	90 to less than 93	3.67
B+	87 to less than 90	3.33
B	83 to less than 87	3.00
B–	80 to less than 83	2.67
C+	77 to less than 80	2.33
C	73 to less than 77	2.00
C–	70 to less than 73	1.67
D+	67 to less than 70	1.33
D	63 to less than 67	1.00
D-	60 to less than 63	.67
F	Less than 60	0

Additional information about grading can be found in the latest edition of the University Catalog, available at <http://www.regis.edu/Academics/Course%20Catalog.aspx>.

### CC&IS Policies and Procedures

Each of the following CC&IS Policies & Procedures is incorporated here by reference. Students are expected to review this information each term, and agree to the policies and procedures as identified here and specified in the latest edition of the University Catalog, available at <http://www.regis.edu/Academics/Course%20Catalog.aspx> or at the link provided.

- The CC&IS Academic Integrity Policy.
- The Student Honor Code and Student Standards of Conduct.
- Incomplete Grade Policy, Pass / No Pass Grades, Grade Reports.
- The Information Privacy policy and FERPA. For more information regarding FERPA, visit the [U.S. Department of Education](http://www.ed.gov).
- The HIPAA policies for protected health information. The complete Regis University HIPAA Privacy & Security policy can be found here: <http://www.regis.edu/About-Regis-University/University-Offices-and-Services/Auxiliary-Business/HIPAA.aspx>.
- The Human Subjects Institutional Review Board (IRB) procedures. More information about the IRB and its processes can be found here: <http://regis.edu/Academics/Academic-Grants/Proposals/Regis-Information/IRB.aspx>.

The CC&IS Policies & Procedures Syllabus Addendum summarizes additional important policies including, Diversity, Equal Access, Disability Services, and Attendance & Participation that apply to every course offered by the College of Computer & Information Sciences at Regis University. A copy of the CC&IS Policies & Procedures Syllabus Addendum can be found here: <https://in2.regis.edu/sites/ccis/policies/Repository/CCIS%20Syllabus%20Addendum.docx>.