

Syllabus for CGS 2760 - Reference # 120005

COURSE INFORMATION

Scope:

This course teaches how to install and use fundamental commands and utilities of UNIX and Linux Operating Systems and maps to the objectives for [\[CompTIA's Linux+ Certification Exam\]](#). It focuses primarily on system administration, hardware configuration, user management, and TCP/IP networking protocols. The course involves extensive reading, practical exercises (projects) and examinations. The use of the term "advanced" in the title of the course relates to the fact that UNIX and Linux are true multi-user, multi-tasking operating systems, intended to be used in networked environments beyond the typical experience of an ordinary home or office PC user. Nevertheless, this course covers only the fundamental elements of UNIX/Linux necessary to provide a solid foundation for further study.

Recommended Prerequisite: CGS 1700 (Introduction to Operating Systems).

Note: the prerequisite above was mandatory in all college catalogs until the fall semester of 2004, but is still recommended for all students to provide a minimum foundation for study.

Expected Course Outcomes: At the completion of the course, students should be able to:

- Determine if a computer system meets the minimum hardware specifications for installation of a given distribution of UNIX/Linux.
- Install the UNIX/Linux kernel on a PC.
- Install and configure graphic user interfaces such as X Windows and the K Desktop Environment.
- Use basic UNIX/Linux reading and navigational commands to examine system status and resources.
- Add, remove, copy, and rename files and directories on a UNIX/Linux machine.
- Selectively retrieve files and data using regular expressions and the grep command.
- Identify, customize and use character-based command shells such as bash and tcsh.
- Prepare and edit ACSII documents using text editors and filters.
- Perform basic system administration tasks involving user and group accounts.
- Manage data storage resource: structure and allocation.
- Prepare and execute basic shell command scripts.
- Manually perform system backups and restorations, and then automate such tasks.
- Configure and use UNIX/Linux TCP/IP protocols and utilities for network access.

Dates: June 23 - August 5, 2008

Textbook:

[\[A Practical Guide to Red Hat® Linux®: Fedora™ Core and Red Hat Enterprise Linux, Third Edition\]](#), (paper back with DVD containing Fedora™ Core 5) by [\[Mark G. Sobell\]](#), Prentice Hall, ©2007, ISBN 0-132-28027-2]. You are *not* required to install the accompanying FC5 software for this course. That choice is up to you as one of a few [Linux access options for this course](#).

Delivery Method:

This course delivered online via a web-based e-Learning environment named [\[Blackboard®\]](#). To learn how students interact with this online version of the course, see the web page about [CGS 2760 Distance Learning Protocols](#). Students registered in online classes *for the first time at the college* are welcome to attend a *general* online orientation session on June 19th at 4:00, 5:00, and 6:00 PM in V-110 of the Kight Center for Emerging Technologies. A series of repeating specific orientation sessions about this course will be held every hour by your instructor from 4:00-7:00 PM in V-209A. For assistance, see the [\[IRCC Blackboard® Support Page\]](#) or contact your instructor.

Participation in a distance learning course demands extreme academic discipline from the student. The substitution of distance learning mechanisms in place of face-to-face classroom participation requires that students define and maintain their own rigorous schedule of study. Understand that in a conventional classroom setting, the average student should expect to spend at least as much time studying outside of class as spent in class. This means that the average *distance learning* student should expect to spend *twice* as much time working on this class as you would sitting in the classroom for a conventional class.

Web Site Addresses:

- Instructor's Page on the IRCC Faculty Web Site at <http://faculty.ircc.edu/dept/advancedTechnology/Faculty/rgibson.htm>
- Primary Class Page on the instructor's web site at <http://www.gibson.vero-beach.fl.us/classes/cgs2760/>
- A page about your textbook on the author's web site at [<http://www.sobell.com/RHLINUX3/index.html>] (includes: [\[errata\]](#), [\[answers to even-numbered exercises\]](#), and the [\[author's recommended Linux links\]](#))
- A page about your textbook on the publisher's web site at [<http://vig.prenhall.com/catalog/academic/product/0,1144,0132280272,00.html>]
- Accompanying CD Software Site at [<http://www.redhat.com/>]

INSTRUCTOR INFORMATION

Name & Department: Randolph Gibson, Computer Science

Office Location: V-424 (Main Campus) - 3209 Virginia Avenue, Ft. Pierce, FL 34981

Office hours: For latest schedule, view the web page at

<http://www.gibson.vero-beach.fl.us/classes/contact.html>

Phone Numbers:

Residence (Vero Beach) - 772-234-8941 (7 AM - 10 PM)

Main (Fort Pierce) Campus: 772-462-7620 (from outside S.L. County, dial: 866-866-4722 Ext. 7620)

Mueller (Vero Beach) Campus Faculty Office: 772-226-2514

College E-mail Address: rgibson@ircc.edu

STUDENT RESPONSIBILITIES

Attendance:

In this course, you are required to come to the [IRCC Assessment \(Testing\) Center](#) on the Main Campus to take your final exam (see the [Course Schedule](#) below).

Contact:

You are responsible for keeping me informed of changes in your contact information. You must send me a message within the first week of class that includes the following information: the course and reference number, your name, your phone number, and your county of residence. **All student email related to this course must be sent to the instructor via the Blackboard mail system.** My email address within the Blackboard® system is my name "Randy Gibson". **Keep a copy of all material sent.** *Please also [maintain your personal contact records with the college](#) via the [\[Online Registration Page of the IRCC Web Portal\]](#).*

Participation:

You are expected to participate the class via email, group discussion facilities, and web-based instruction. Read the chapters in your textbook as scheduled below. Be proactive in your study habits! Try to stay **ahead** of the schedule, don't just keep up with it. *Be aware that course schedules are compressed almost 3:1 during summer semesters. As such, we will be covering nearly one chapter per day this semester.*

Assignments:

Blackboard® provides a group conferencing environment where students and teachers and can post questions and have asynchronous discussions about topics of interest in this course. You will be required to participate in this area which is accessible from the class home page [\[login here if desired\]](#) under the link labeled "Discussion". Deadlines for your postings in the discussion area are listed in the [schedule below](#).

You will also perform projects which may involve answering questions from the textbook or performing activities involving [either your own computer or an IRCC Linux server](#) accessible by dial-up or from an IRCC Computer Lab. Details of these assignments will be posted at least one week prior to the due date on the [CGS 2760 Projects](#) page on the course web site. Typically you will submit results of those projects through the Blackboard email system.

Please note the following important constraints:

- You must do all assignments alone! Plagiarism will not be tolerated and will result in severe disciplinary action.
- Points will be subtracted from any assignment that is not submitted as requested. Only assignments that you submit by 11 PM on the evening of their scheduled due dates will earn credit.

- All assignments must be completed in order to pass the course. Note this well! A student with A's on every quiz will fail the course if they have not completed *all* projects and posting activities by the start of final exams.
- Keep a copy of all work submitted.

Campus Computer Labs:

You are welcome to use the IRCC Computer Labs (in Room V 125 on the [\[Main Campus\]](#), Room J 211 on the [\[St. Lucie West Campus\]](#), Room 19 in [\[Stuart\]](#), and Room V 114 in [\[Vero Beach\]](#)) at times as noted on the lab doors. Understand that we do *not* have Linux installed in these labs, but you can use the Windows®-based machines to access the IRCC Linux Server as described under option 5 on the course web page about [Linux access options for this course](#). The Student Assistants who supervise the labs are there to provide general guidance in using lab equipment, but are not expected to be familiar with all software used in each course. Contact your instructor for help with software and other class topics.

Quizzes & Exams:

Your quizzes will be taken interactively through the Blackboard system and available for only a limited period of time as shown on the schedule below. These quizzes are accessible from the Blackboard® class home page [\[login here if desired\]](#) under the link labeled "Assessment". Because of the compressed schedule in the summer semester, the proctored final exam will be given at only the [Assessment \(Testing\) Center](#) on the Main Campus in W-109 in the W Building. You must take a photo ID (preferably a license) to the Assessment Center to take the test.

Grading:

Remember: *All* assigned work (postings and projects) must be completed to the satisfaction of your instructor prior to the final exam period for you to pass this course.

Instruments of Evaluation	Points
Five hands-on projects, each worth 10 points, totaling	50
Four Five quizzes each worth 50 points, totaling	250
Final (unit) exam	50
Your final grade is based on your percentage of	350

One bonus point will be awarded for each posting that you complete to your instructor's satisfaction *and submit on time*. These will be added to your overall score total and can help to bolster weak scores. You can check on your class performance using the MyGrades area of the Blackboard system.

Final grades result from the total points each student earns divided by the total points available, based on the scale: 100-90% = A, 89-80% = B, 79-70% = C, 69-60% = D, 59-0% = F. Final grades are posted to the college website shortly after the last day of final exams at the web address

[\[http://webreg1.ircc.edu/FCCSC/navigate/student.jsp \]](http://webreg1.ircc.edu/FCCSC/navigate/student.jsp)

Incomplete Grade:

IRCC policy states that an [Incomplete \(I\) grade](#) may be considered *only* in cases when a student is currently passing a course, but could not complete it due to circumstances judged to be beyond the student's control, and when there is a reasonable expectation that the work can be satisfactorily completed within a calendar year. An incomplete grade which is not resolved within a calendar year, will automatically become an "IF" (failing grade).

Withdrawal:

If you feel the need to withdraw, please speak with me about alternatives. You will *not* be automatically withdrawn if you stop participating in the class. Withdrawal requires that *you* submit an official IRCC form through an Educational Services office on any campus or through online submission at:

[\[http://webreg1.ircc.edu/FCCSC/navigate/student.jsp\]](http://webreg1.ircc.edu/FCCSC/navigate/student.jsp)

Degrees & Certificates:

This course is a requirement of the Computer Information Technology A.S. Degree program at IRCC. You are strongly encouraged to consider the advantages of completing a Technical Certificate or an Associate Degree. Check with your counselor to see how close you may be to increased earning potential.

Publications:

The college provides extensive information to help students succeed. A list of links to some of the most important information can be found at

<http://www.gibson.vero-beach.fl.us/classes/ircclinks.html>

Professionalism:

Students enrolled in IRCC's Computer Science courses are encouraged to develop their professional character through participation in the local chapter of the national student organization, [\[Phi Beta Lambda\]](#). For more information, contact Professor Terri Holly <tholly@ircc.edu> at 772-462-7669.

COURSE SCHEDULE

The schedule below contains deadlines for activities that you will be performing in the class. Reading involving either the textbook or [online notes](#) should be completed before attempting any assignment, quiz, or exam. Exercises and review questions within the textbook are useful, but will not be submitted for grading in this class. Review the schedule in advance to determine any conflicts that may arise regarding holidays or travel plans. With the exception of listed windows of opportunity to take online quizzes or proctored exams, all other dates listed below should be interpreted as final deadlines for activities that you will be performing in the class. You are welcome to submit work early. Try to stay **ahead** of the schedule; don't just keep up with it. Contact me immediately if you cannot meet a deadline.

This schedule and any changes to it will be posted on the course web site. You also are advised to review the [\[web pages regarding academic schedules\]](#) on the [\[IRCC web site\]](#).

Deadline	Textbook Chapter	Textbook & Online Reading	Activity/Assessment
Thu 6/19			Orientations hourly from 4-7 PM in V-209A
6/23	1	Welcome to Linux	
6/24	Ap.D Ap.B	Free Software Definition Help (Resources)	Post #1: Introduction: Tell us about yourself
6/25	2	Installation Overview	
6/26	3	Step-by-Step Installation	
6/27	4	Introduction to Red Hat Linux	
6/28	8	Linux GUI's: X, GNOME, and KDE	
6/29	Review: 1-4, 8	Review Chapters 1-4, 8	Proj. #1 : Establishing a working Linux environment
6/30-7/1	Quiz 1	Chapters 1-4, 8	Quiz 1
7/2	5 & Ap.A	Linux Utilities and Appendix A: Regular Expressions	
7/3	6	Linux Filesystem	
7/4			Post #2: File Security
7/5	12	Files, Directories, and Filesystem	
7/6	Review: 5-6, 12	Review Chapters 5-6, 12	Proj. #2 : Secure File Management
7/7-7/8	Quiz 2	Chapters 5-6, 12	Quiz 2
7/9	7	The (Linux) Shell	
7/10	9	The Bourne Again Shell	
7/11	28	Programming the Bourne Again Shell	
7/13	Review: 7,9,28	Review Chapters 7,9,28	Proj. #3 : bash Scripting
7/14-7/15	Quiz 3	Chapters 7,9,28	Quiz 3
7/16	13	Downloading and Installing Software	

Deadline	Textbook Chapter	Textbook & Online Reading	Activity/Assessment
7/17			Post #3: Software Acquisition
7/18	14	Printing with CUPS	
7/19	16	Administration Tasks	
7/20	Review: 13-14,16	Review Chapters 13-14, 16	
7/21-7/22	Quiz 4	Chapters 13-14,16	Quiz 4
7/23	10	Networking and the Internet	
7/24	17	Configuring a LAN	
7/25	11	System Administration: Core Concepts	
7/26	Review: 10-11,17	Review Chapters 10-11, 17	
7/27-7/28	Quiz 5	Chapters 10-11, 17	Quiz 5
7/29	18 & 19	OpenSSH: Secure Network Comm. FTP: Transferring Files	
7/30	23	Samba: Integrating Linux and Windows	Post #4: Internet Services
7/31	25 Ap.C	iptables: Setting Up a Firewall, and Appendix C: Security	Proj. #4: FTP: Internet File Transfer
8/1	26	Apache (httpd): Setting Up a Web Server	
8/2			Proj. #5: Apache Web Server
8/3	Rev. 18,19,23,25,26	Review Chapters 18,19,23,25,26	
8/4-8/5	Final	Proctored Exam at <i>Main Campus</i> [IRCC Assessment Center]	Final (Unit) Exam
8/5			Post #5: Evaluation

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www.gibson.vero-beach.fl.us/classes/cgs2760/sum/cgs2760d1_08.html

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