

Syllabus for CGS 2760 - Reference # 126854

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.

Assessment of Learning Outcomes:

Learning outcomes are determined by measuring the ability of each student to accomplish the learning objectives of the course as measured against industry standards, job descriptions, and state curriculum frameworks. The assessment tools used for this course include observation of mastery of critical skills and performance-based methods, such as completion of assigned projects, quizzes and exams consisting of either essay, multiple-choice, true/false or fill-in-the-blank questions.

Delivery Method:

This section of this course is delivered solely on-line 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 [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 January 5th at 4:00, 5:00, and 6:00 PM in V-209A 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 [Online Classroom 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 (F2F) 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.

A detailed course schedule for this online section of the course can be found by viewing the course calendar on the [Online Blackboard Server](#) for this course. It shows due dates for all course activities and provides links to instructions for each of them. A copy of this schedule information also appears at the end of this syllabus (see the [Course Schedule](#) below).

Dates: Jan. 7 - May. 1, 2009 (See the [Course Schedule](#) below)

Textbook:

[*A Practical Guide to Fedora™ and Red Hat® Enterprise Linux®, 4/E*](#), (paper back with DVD containing Fedora™ Core 8) by [Mark G. Sobell](#), Prentice Hall, ©2008, ISBN-10: 0137142951, ISBN-16: 978-0-13-714295-8. *The 4th edition of the textbook is very similar to the prior 3rd edition, except that it includes Fedore 8 instead of Fedora Core 5. Its chapters align with this semester's reading too. You are not required to install the accompanying software for this course. That choice is up to you as one of a few [Linux access options for this course](#).*

Web Site Addresses:

- CGS 2760 Course Home Page: www.gibson.vero-beach.fl.us/classes/cgs2760/
- A page about your textbook on the publisher's web site at www.pearsonhighered.com/educator/academic/product/0,3110,0137142951,00.html
- Accompanying CD Software Site at www.redhat.com/
- IRSC Online Server Login Page: webct6.irsc.edu
- IRSC eLearner Support Page: www.irsc.edu/portal/layout_web1.aspx?PortalPageID=225

INSTRUCTOR INFORMATION

Name & Department: Randolph Gibson, Computer Science

Office Location: V 424 [Kight Center for Emerging Technologies](#)
3209 Virginia Avenue, Ft. Pierce, FL 34981

Office hours: For latest schedule, view: 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: 866-792-4772 Ext. 7620)

[Mueller \(Vero Beach\) Campus](#) - Faculty Office: 772-226-2514

College E-mail Address: rgibson@irsc.edu

STUDENT RESPONSIBILITIES

In this course, you are required to come to an [IRSC Assessment Center](#) 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, your county of residence, and which campus you prefer to use to take your final exam (see the section on Quizzes & Exams below). **All student email related to this course should be sent to the instructor via the Blackboard mail system.** My email address within that system is my name "Randolph 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 college Web Portal](#).*

Assignments:

This online class will involve two types of assignments:

- Discussion Postings - Blackboard provides a group conferencing environment where students and teachers can post questions and have asynchronous discussions about topics of interest in this course. Some participation will be voluntary. However you also will be required to the "Main" topic in this area which is accessible via the "Discussion" link on the left side of the Blackboard home page for our class. You might also receive assignments directly by email.
- Hands-ons (or simulation) projects - these involve producing written documentation resulting from performing a hands-on activity with Linux or simulating one. All projects are accessible as links in the schedule below. Review the [Supplemental Reading](#) pages before starting each project.

Note the following important policies:

- You must do all assignments alone! Plagiarism will not be tolerated and will result in severe disciplinary action.
- All assignments must be completed in order to pass the course. Note this well! A student with A's on every quiz and project will fail the course if they have not completed all projects and posting activities by the deadline for the final ones.
- Points will be deducted for late submission of projects.
- 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 on the [Stuart Campus](#), and Room V 114 on the [Vero Beach Campus](#)) at times as noted on the lab doors. The student Lab 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 accessible from the [Online Blackboard Server](#) under the link labeled "Assessment" and be available for only a limited period of time as shown on the schedule below. The final exam will be given in the [IRSC Assessment Center](#) which you indicate as your preference in your required email message (see above). You must take a photo ID to the Assessment Center to take a test.

Make-up Work:

No more than 1 quiz or project can be made up. The make-up item might be more difficult than the original. You must schedule and complete the make-up no later than 7 days after the original. The final exam cannot be made-up without an [Incomplete \(I\) grade](#).

Grading:

Remember: *All* projects must be completed prior to the final exam for you to pass this course.

Instruments of Evaluation	Points
Five hands-on projects, each worth 10 points, totaling	50
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 assignment that you complete to your instructor's satisfaction *and submit on time*. These will be added to your overall test score total. These bonus points can help to bolster weak exam scores. You can check on your class performance using the MyGrades area of the Blackboard server. 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 Web site shortly after the last day of final exams at the web address

webreg1.irsc.edu/FCCSC/navigate/student.jsp

Incomplete Grade:

IRSC 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 withdrawal form through an Educational Services office on any campus or through online submission at:

webreg1.irsc.edu/FCCSC/navigate/student.jsp

Degrees & Certificates:

This course is a requirement of the Computer Information Technology A.S. Degree program at IRSC. 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.

Professionalism:

Students enrolled in IRSC'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@irsc.edu> at 772-462-7669.

COURSE SCHEDULE

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.

Reading involving either the textbook or [online supplemental pages](#) should be completed before attempting any project or assessment. Exercises and review questions within the textbook are useful, but will not be submitted for grading in this class.

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 [IRSC Web Portal](#) .

Deadline	Textbook Chapter	Textbook & Online Reading	Activity/Assessment
1/5		Distance Learning Orientation for online students in room V-209A, hourly from 4-7 PM.	
1/13			Post #1: Introduction: Tell us about yourself
1/14	1 and Ap.D Ap.B	Welcome to Linux Free Software Definition Help (Resources)	
1/17	2	Installation Overview	
1/20	3	Step-by-Step Installation	
1/22			Proj. #1 : Establishing a working Linux environment
1/23	4	Introduction to Red Hat Linux	
1/25	8	Linux GUI's: X, GNOME, and KDE	
1/27	Review: 1-4, 8	Review Chapters 1-4, 8	
1/28-1/29	Quiz 1	Chapters 1-4, 8	Quiz 1

Deadline	Textbook Chapter	Textbook & <u>Online</u> Reading	Activity/Assessment
1/30	5 & Ap.A	Linux Utilities and Appendix A: Regular Expressions	
2/2	6	Linux Filesystem	
2/5	12	Files, Directories, and Filesystem	
2/8			Post #2: Filing
2/10			Proj. #2 : Secure File Management
2/11	Review: 5-6, 12	Review Chapters 5-6, 12	
2/12-2/13	Quiz 2	Chapters 5-6, 12	Quiz 2
2/15	7	The (Linux) Shell	
2/18	9	The Bourne Again Shell	
2/22	28	Programming the Bourne Again Shell	
2/26			Proj. #3 : bash Scripting
2/28	Review: 7,9,28	Review Chapters 7,9,28	
3/1-3/2	Quiz 3	Chapters 7,9,28	Quiz 3
3/3	13	Downloading and Installing Software	
3/5			Post #3: Downloading Software
3/7	14	Printing with CUPS	
3/10	16	Administration Tasks	
3/12	Review: 13-14,16	Review Chapters 13-14, 16	
3/13-3/14	Quiz 4	Chapters 13-14,16	Quiz 4
3/16	10 & 17	Networking and the Internet and Configuring a LAN	
3/19	11	System Administration: Core Concepts	
3/22	Review: 10-11,17	Review Chapters 10-11, 17	
3/23-3/24	Quiz 5	Chapters 10-11, 17	Quiz 5
3/26	18	OpenSSH: Secure Network Comm.	
3/29			Post #4: Internet Services
3/31	19	FTP: Transferring Files	

Deadline	Textbook Chapter	Textbook & Online Reading	Activity/Assessment
4/4			Proj. #4 : FTP: Internet File Transfer
4/6-4/10		IRSC SPRING BREAK	
4/13	23	Samba: Integrating Linux and Windows	
4/17	25 Ap.C	iptables: Setting Up a Firewall , and Appendix C: Security	
4/21	26	Apache (httpd): Setting Up a Web Server	
4/24			Proj. #5 : Apache Config.
4/27	18,19,23,25,26	Review Chapters 18,19,23,25,26	
4/28-4/29	Final	Chapters: 18,19,23,25,26	Final (Unit) Exam: Proctored Exam in an IRSC Assessment Center
5/1			Post #5: Evaluation

PATH: [Faculty.IRSC.Edu](#)> [Computer Science](#)> [Faculty](#)> [Randy Gibson](#)> [Instructional Server](#)> [CGS 2760](#)> [Syllabi](#)>

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www.gibson.vero-beach.fl.us/classes/cgs2760/spr/cgs2760_09dl.html

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