ITMO/IT-O 456 Introduction to Open Source Operating Systems
Spring 2015 Syllabus

Professor Jeremy Hajek

Professor: **Jeremy Hajek**
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Office: Rice Campus 228 and Main Campus Perlstein Hall 223
Office Hours: Main Campus: T & TH 12:30 to 2:30 Rice Campus Wednesday 1 pm to 3 pm.

Course Catalog Description: Students learn to set up and configure an industry-standard open source operating system, including the actual installation of the operating system on the student workstation. Also addressed are applications and graphical user interfaces as well as support issues for open source software.

Prerequisites: None

Credit: 2-2-3 Semester Hours

Lecture/Lab Day, Time & Place: Monday 1:50pm – 5:25pm, Rice Campus room 207

Schedule of Topics/Readings: ***All readings should be done prior to class.***

Class Session	Date	Topic/*Lab*	Reading
1	August 27	**Introduction to Open Source Software**	Chapter 1
2	September 3	**Installing Linux**	Chapters 2, 3
3	September 10	**Using Fedora and the Shell**	Chapters 4, 5
4	September 17	**Linux Filesystem**	Chapters 6, 11
5	September 24	**Linux Utilities**	Chapter 7
6	October 1	**Bourne Again Shell (BASH)**	Chapter 9
7	October 8	**Installing Software and Basic Tasks**	Chapters 12, 15
8	October 15	**BASH Scripting**	Chapter 27
9	October 22	**System Administration**	Chapter 10
10	October 29	**Remote Administration & Host Firewall**	Chapters 18, 25
11	November 5	**Apache Webserver**	Chapter 26
12	November 12	**FTP & Mail Servers**	Chapters 19, 20
13	November 19	**SAMBA & BIND**	Chapters 23, 24
14	November 26	**NO CLASS – Fall Break**	
15	December 3	**Final Exam Review**	
16	December 10	**Final Examination**	

Required Textbook:

Mark G. Sobell *Practical Guide to Fedora and Red Hat Enterprise Linux, 7th/ED* Prentice Hall, ISBN-10: 0133477436; ISBN-13: 9780133477436; Available at: http://www.pearsonhighered.com/educator/product/Practical-Guide-to-Fedora-and-Red-Hat-Enterprise-Linux-A/9780133477436.page

Course Materials:

- Fedora 20 & 21
- Ubuntu 14.04.1
- Virtual Box (provided)
- Vagrant
- Packer

Course Objectives:

Each successful student will be able to demonstrate foundation knowledge of the Linux operating system and will be prepared to pass the Linux+ certification exams from CompTIA. The course will be taught to the Linux+ objectives which are now the same as the Linux Professional Institute LPIC-1 level.

Course Outcomes:

Students completing this course will be able to:

- Install, configure and administer an industry-standard distribution of the Linux operating system
- Troubleshoot and resolve Linux installation problems and common system problems
- Use and administer Linux as both a server and desktop operating system

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Course Notes: Copies of the course lecture notes in the form of a PDF of the PowerPoint presentation accompanying each lecture will be provided for each student on Blackboard. This should be useful if you must miss a class. You should be aware that note taking is encouraged and should help your understanding of the material.

Readings: Readings for the class will be assigned from the textbooks; there may be additional reading assigned in the form of online reading. All readings should be done before coming to class on the assigned date, and are *mandatory* and *expected*. Generally if you do the readings you will *excel* in the course, as the lectures serve as a clarification and explanation of material you should already be familiar with. Completion of reading may be verified by quizzes. Specific readings are assigned by topic above.

Attendance: As this is a live laboratory class and demonstrations of operating system configuration and functions are a key part of the class, attendance is critical. If you will not be able to attend class, please notify the instructor via email prior to class time. It is possible to arrange for absences in advance but they must be arranged by discussion with the instructor in advance.

Labs: Labs for this class will be guided learning experiences; each lab may include questions to ensure that the necessary skills have been mastered. Specific laboratory problems may be assigned from the textbook. There will be a lab with each lesson; all labs must be completed to receive full credit. Due to the nature of the class, labs must generally be completed in the classroom environment, unless students elect to install and configure Linux on a personally-owned notebook/desktop PC or on a virtual machine on a personally-owned PC. Lab reports, which will be very brief and will normally only include responses to any assigned laboratory questions, will be due at the second class following the assignment. Lab reports will be submitted via the Blackboard assignments page.

Homework: Homework may be assigned in the form of questions or problems from the textbook or published on Blackboard. All homework will be due at the second class following the assignment. Homework will be submitted via the Blackboard assignments page.

Podcasts: There will be a podcast listening or viewing assignment each of the first 12 weeks.

Examination: The final examination will consist of multiple choice, fill-in-the-blank, short answer, and short essay questions to demonstrate mastery of the material covered and to reflect preparation to pass a certification exam on this material. Questions will be based on the learning objectives for each topic. The final exam is closed-book/closed-notes.

Academic Honesty:

Plagiarism: All work you submit in this course **must be your own**. You must fully attribute **all** material directly quoted in papers and you must document all sources used in the preparation of the paper using complete, APA-style bibliographic entries. Including directly quoted material in an assignment without attribution is always plagiarism and will always be treated as such by me. No more than thirty-three percent of material included in any paper may be direct quotes. Students have submitted plagiarized material the last six times I have taught this course and **I will not tolerate it**. If you submit plagiarized material you **WILL** receive a grade of **ZERO** for the assignment, an Academic Honesty Violation Report will be filed, and it may result in your expulsion from the course with a failing grade as per the IIT and ITM academic honesty policies. **There is no excuse for not understanding this policy** and if you do not understand it please let me know and I will be happy to discuss it with you until you do. *(Should include assignment or lab collaboration statement as necessary.)*

Grading: Grading criteria for ITMO/IT-O 456 students will be as follows:

A *Outstanding work reflecting substantial effort* 90-100%

B	**Undergraduate/IT Students:** *Excellent work reflecting good effort*	80-89.99%
B	**Graduate Students:** *Satisfactory work fully meeting expectations*	80-89.99%
C	**Undergraduate/IT Students:** *Satisfactory work meeting minimum expectations*	70-79.99%
C	**Graduate Students:** *Substandard work not meeting expectations*	65-79.99%
D	**Undergraduate/IT Students:** *Substandard work not meeting expectations*	60-69.99%
	Graduate Students: Graduate students may not be assigned a **D** grade	N/A
E	**Undergraduate/IT Students:** *Unsatisfactory work*	0-59.99%
E	**Graduate Students:** *Unsatisfactory work*	0-64.99%

The final grade for the class will be calculated as follows:

Homework/Labs/Podcasts	**50%**
Quizzes and Class Participation	**20%**
Final Exam	**30%**

Other Class Resources: Online readings and other class resources are on **http://blackboard.iit.edu.**

Our Contract: This syllabus is my contract with you as to what I will deliver and what I expect from you. If I change the syllabus, I will issue a revised version of the syllabus; the latest version will always be available on Blackboard. Areas with changes will be indicated by a black bar in the right-hand margin of the page.

Computer Labs: Class will be held in room PH 218 at IIT's Main Campus, a lab administered by the IIT School of Applied Technology Technical Services. Each student will be assigned to a particular PC and will use the same system for the duration of the course. Your operating system will be on a removable hard drive which may be available for checkout from the instructor for lab use outside of class meeting times.

PC Shutdowns: Please turn off the monitor and properly shut down the computer at the end of each class.

Computer Use Policies: Please ensure that you have read and understand the IIT and ITM Network and Computer Use Policies found at **http://www.itm.iit.edu/data/ITMComputerUsePolicies.pdf.**