

Professor		
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Required Text(s)		
Sobell, M. (2012). <a href="#">Practical Guide to Linux Commands, Editors, and Shell Programming, 3/E</a> . Prentice Hall. ISBN-10: 013308504X • ISBN-13: 9780133085044		
Recommended Texts		
**Handouts and additional supplementary materials are supplied by the instructor via MUOnline		
Course Description		
This three (3) credit hour Intro to Linux course (CRN #2595) is intended to provide the student with the basic introduction to the Linux family of operating systems. The Linux environment, basic commands, file system, processes, utilities, system structures and scripting are explored. This course is not for Linux system programming (although Python & Bash Programming are introduced), nor Linux system administration.		
Prerequisites		
None		
Computer Requirements		
For out-of-class laboratory exercises, it is recommended that the student setup their own functioning Linux distribution such as Ubuntu, Debian, etc. I would highly recommend that the student setup their Linux distribution on a portable virtual machine (i.e. VM on a portable hard drive) for better experiences in in-class lab exercises. In addition, the student will gain familiarity with special distributions used in the digital forensics and information assurance community such as SIFT and Kali Linux.		
All students are responsible for knowing the University Computing Services' Acceptable Use Policy available at <a href="http://www.marshall.edu/ucs/CS/accpuse.asp">http://www.marshall.edu/ucs/CS/accpuse.asp</a> .		
Students will receive emails via Marshall email (Please setup your Marshall account(s) if you have not done so). E-mail will be used to make any general announcements, last minute changes, etc. It is mandatory that you monitor both your email at least once a day. PLEASE ONLY USE MY MARSHALL EMAIL ADDRESS FOR QUICK CORRESPONDENCE. Messages left on MUOnline or any other social media may result in delayed responses.		
Course Objectives/Outcomes		
This course places heavy focus on learning functionality of the Linux Operating System. In this course, learning outcomes are gauged as followed:		
Course Student Learning Outcome	How Practiced in This Class	How Assessed in This Course
<ul style="list-style-type: none"> <li>Use basic Linux commands and utilities from the command-line</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>Completion of End-of-chapter labs,</li> <li>Exams 1 &amp; 2</li> </ul>
<ul style="list-style-type: none"> <li>Organize files in the Linux file system</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>Completion of End-of-chapter labs,</li> <li>Exams 1 &amp; 2</li> </ul>
<ul style="list-style-type: none"> <li>Create and edit files in the Linux file system</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>Completion of End-of-chapter labs,</li> <li>Exams 1 &amp; 2</li> </ul>

<ul style="list-style-type: none"> <li>Manage processes in the Linux file system</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>Completion of End-of-chapter labs,</li> <li>Exams 1 &amp; 2</li> </ul>
<ul style="list-style-type: none"> <li>Install and execute applications in the Linux command environment</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>Completion of End-of-chapter labs,</li> <li>Exams 1 &amp; 2</li> </ul>
<ul style="list-style-type: none"> <li>Be able to write basic Linux shell (bash) scripts</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>Completion of End-of-chapter labs</li> <li>Exam 2</li> </ul>
<ul style="list-style-type: none"> <li>Be able to write and execute Python 2.x scripts</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>Completion of End-of-chapter labs</li> <li>Exam 2</li> </ul>
<ul style="list-style-type: none"> <li>Learn functionality of Linux within the digital forensics discipline</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>In-class instructor demonstrations/lab</li> <li>Exam 2</li> </ul>
<ul style="list-style-type: none"> <li>Learn functionality of Linux within the information security discipline</li> </ul>	<ul style="list-style-type: none"> <li>Discussion, in-class hands-on labs, in-class discussion/lecture</li> </ul>	<ul style="list-style-type: none"> <li>In-class instructor demonstrations/lab</li> <li>Exam 2</li> </ul>

A variety of methods will be used to evaluate learning of each of the above outcomes. These include: classroom discussion, in-class case studies and exercises, exams, and in-class and out-of-class labs.

This Intro to Linux course will meet every Tuesday and Thursday (TR) from 11:00-12:15PM in Weisberg Applied Engineering Complex (WAEC) Room 1104 (Gaming Laboratory). Our journey of knowledge will consist of lecture with accompanying in-class lab projects.

Evaluation of student's performance will be based on the quality of your performance on laboratory projects, student participation, and exams.

Lectures and course materials will be available from MUOnline as they become available. You can log into the course website using your 901 student number at the following address:  
[www.marshall.edu/muonline](http://www.marshall.edu/muonline)

#### Project Submission Guidelines

The course includes a number of lab-based projects. All assignments are due on their due date and must be submitted through via MUOnline (unless otherwise noted by the instructor). **NO LATE ASSIGNMENTS WILL BE ACCEPTED.** Please do not procrastinate in working on your lab assignments or trying to submit through MUOnline as many others have done in the past. If you wait until the last night to start on the project or the last minute to submit, chances are, you will fail.

All electronic submissions **MUST** follow this file naming convention:  
*Ist261\_LastName\_FirstInitial\_Assignment Name.doc ("ist261\_bruntj\_chapter2lab1.txt")*

Assignments must be submitted in the format specified by the instructor for a given assignment. I **WILL NOT** accept projects submitted in non-approved formats or naming conventions. Assignments & projects must convey information in a clear, concise, and technical matter; hence obvious grammatical mistakes will be deducted. Projects will be available for download & submitted via MUOnline unless otherwise noted by the instructor.

All course assignments will:

- 1) Be completed on time
- 2) Meet guidelines and scoring rubrics for the assignment

### University Policies

By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to [www.marshall.edu/academic-affairs](http://www.marshall.edu/academic-affairs) and clicking on "Marshall University Policies." Or, you can access the policies directly by going to [http://www.marshall.edu/academic-affairs/?page\\_id=802](http://www.marshall.edu/academic-affairs/?page_id=802)

*Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/ Dead Week/ Students with Disabilities/ Academic Forgiveness/ Academic Probation and Suspension/ Academic Rights and Responsibilities of Students/ Affirmative Action/ Sexual Harassment*

### Professionalism/Attendance Policy

This class is predominately project based, with much of our time devoted to class time computer work and hands-on tutorials with forensic tools and other utilities that may only be available in the laboratory environment. With that said, any missed classes will result in lost points (5 pts per class. 16-18 class meetings), put the student behind, and make it difficult to pick up with the next class lessons. However, in the event that you **MUST** miss class, it is the student's responsibility to meet with the professor to discuss absences due to illness or other reasons. Any excused absences must adhere to the University's excused absence policy. In this course you will be treated as professionals and will be expected to behave and perform as such. As professionals, you will be expected to attend class, be on time, complete all of your assignments, meet deadlines, ask questions when you don't understand, and participate. Your classroom language and demeanor should also be professional. Also, please set your mobile devices to "Vibrate Only" mode (or turn it off) during class.

### Instructor Contact & Social Media Policy

You are welcome to follow me on Twitter (@joshbrunty) and/or join my network on LinkedIn. You can also follow our department through our MU Digital Forensics or MU Forensics Facebook group pages. For class-related questions, however, please email me (no DM's, Snaps, etc.). You are also encouraged to stop by my office. Please note, however, that I rarely answer or walk you through lab-related questions via email. In these circumstances, you are encouraged to stop by my office during posted office hours and/or make an appointment.

### Grading Policy

Student materials and grades will be returned as soon as graded to the student and can be viewed via MUOnline. Should you wish to appeal a grade, test question, etc, you need to follow this procedure. You should send an email via MUOnline to the Graduate Assistant and CC me. The title of the email must read "GRADE APPEAL – Assignment Name" (i.e. GREP Quiz, Exam 1, etc). The body of the email must include the question, question number, your answer, and why you think you deserve credit. For tests and quizzes in MUOnline, this should be done immediately after completion, before you leave class. You can copy and paste this information to make things simple. I will get back to you as soon as possible.

Final letter grades will be based on the following scale:

90-100	<b>A</b>
80-89	<b>B</b>
70-79	<b>C</b>
60-69	<b>D</b>
0-59	<b>F</b>

Percentage of grades will be distributed as follows:

Lab Exercises	40%
Exams 1 & 2	40%
Attendance/In-Class Labs (Point value varies- 5 pts per class)	20%

#### Example:

Laboratory Exercises (76%)	x .40 = 30.4
Exams 1 & 2 (92%)	x .40 = 36.8
Attendance/Participation (83%)	x .20 = 16.6
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	(83.8% = 84% B)

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### **End of Chapter Lab Exercises (40%)**

There are a total of ten (10) laboratory exercises that are to be completed and submitted MUOnline. This consists of eight (8) chapter laboratory exercises and three (3) applied in-class lab exercises. The applied in-class labs will be done in-class within groups, but submitted individually. The due dates for each lab exercise can be found in MUOnline and in the course schedule below. The Lab exercises themselves and instructions on how to complete them can be found within the assignment posted in MUOnline. Each step is generally worth 5 points, but can vary based upon the complexity of the step and/or specifications of the lab exercise. Point value varies based on the number of steps in each lab. The total points possible can be found posted with each assignment.

### **Exams 1 & 2 (40%)**

There are a total of two (2) exams administered during the semester (please see syllabus for exam date). Each of these exams will be worth 100 points. An in-class review and study guide will be given in advance of each exam.

### **Attendance/In-Class Lab Participation (20%)**

Attendance will be taken each day of class via sign-in sheet. It is the student's responsibility to make sure that the sheet is signed. Each class will be worth five (5) pts. and will be calculated as a score at the end of the semester. Generally, this can range in the ballpark of 25 class meetings but can vary due to weather, cancelled classes, etc. Any in-class quizzes given by the instructor will also factor into this percentage calculation.

CLASS SCHEDULE	Marshall University Dates/ Important Dates	WEEK
<b>NOTE:</b> When projects are assigned for a week, the due date will be reflected within the posted assignment via MUOnline. It is expected of the student to submit the project to MUOnline prior to the due date/cutoff time (which is usually the beginning of class). Failure to do so will result in a zero for the project. Please see the instructor if extenuating circumstances exist that may merit an extension or modification of the assignment. Late, incomplete or poorly organized assignments will result in point deductions. The following outline delineates the tentative class schedule with topics to be addressed during the course. Please note this is a tentative schedule and it may change upon class progress:		
<b>Week 1</b> Chapter 0 (Introduction to Linux)		Aug 22-26
<b>Week 2</b> Chapter 1 (Welcome to Linux & Mac OSX)		Aug 29-Sept 2
<b>Week 3</b> Chapter 2 (Getting Started)	✓ September 5 (Monday)- Labor Day- No Class	Sept 5-9
<b>Week 4</b> Chapter 3 (The Utilities)		Sept 12-16
<b>Week 5</b> Chapter 4 (The Filesystem)		Sept 19-23
<b>Week 6</b> Chapter 5 (The Shell)		Sept 26-30
<b>Week 7</b> Intro to GREP Part 1		Oct 3-7
<b>Week 8</b> Intro to GREP Part 2	✓ Friday October 14 @ 11:59PM- Chapters 2, 3, & 4 & Applied In-Class Lab #1 (GREP) Lab DUE via MUOnline	Oct 10-14

<b>Week 9</b> Exam #1 Review Exam #1	✓ Exam #1 (10/20 @ 11AM)	Oct 17-21
<b>Week 10</b> Chapter 8 (The Bash Shell)	✓ Oct 28 (Friday)- Last day to drop a full semester individual course	Oct 24-28
<b>Week 11</b> Chapter 8 (The Bash Shell) Cont.	Friday Nov 4 @ 11:59PM- Applied In-Class Lab #2 (Bash Scripting) DUE via MUOnline	Oct 31-Nov 4
<b>Week 12</b> Chapter 12 (The Python Programming Language)		Nov 7-11
<b>Week 13</b> Chapter 12 (The Python Programming Language) Cont.	✓ Friday Nov 18 @ 11:59PM- Chapters 5&8 & Applied In- Class Lab #3 (Python) DUE via MUOnline ✓ SecureWV/HackerCon (Nov 18- 20)	Nov 14-18
<b>Week 14</b> No Class	✓ Thanksgiving/Fall Break- 11/21- 11/25	Nov 21-25
<b>Week 15</b> Linux in Information Assurance		Nov 28-Dec 2
<b>Week 16</b> Linux in Digital Forensics Exam #2 Review	✓ "Dead Week"	Dec 5-9
<b>Week 17</b> Exam #2 (Final Exam)	✓ Exam #2 (Final): Thursday 12/15 10:15AM-12:15PM	Dec 12-16

*\*Syllabus meets requirements set forth by MUBOG Policy AA-14*