CSE 4251 – The UNIX Programming Environment
Autumn 2017

Instructor: **Manirupa Das**
Office: Dreese Lab 580 / Caldwell Laboratory 400
Office hours: Wednesdays 2:00p-3:00p DL 580, unless otherwise specified
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Class time and location: **Monday 9:10-10:05a, Dreese Lab 357**

Course Description:

Introduction to the UNIX programming environment including: shell programming (bash,tcsh); regular expressions; makefiles; grep, sed, and awk programming utilities.

Prerequisites and Co-requisites:

CSE 2231 or CSE 321. Not open to students with credit for CSE 459.11

Course Webpage: Carmen – check Modules and Assignments

Instructor Webpage: http://web.cse.ohio-state.edu/~das.65/

Textbook:

"UNIX SHELLS by Example, Fourth Edition ", Ellie Quigley, 2005 by Prentice Hall.
[Online Version] http://proquest.safaribooksonline.com.proxy.lib.ohio-state.edu/013147572X

Objectives:
Students will be competent with a UNIX programming environment to manage processes and find information using shell programming, becoming familiar with:
- C Shell programming.
- UNIX regular expressions and grep
- Using basic sed commands.
- Using awk commands to filter through data files
- Make and other utilities

Attendance:

 "Students are expected to attend class"… "Attendance is strongly encouraged and recommended." Students are responsible for all material covered, all assignments made, and all due dates announced as specified in class whether or not they are updated online. You are responsible for any information given in class.

Evaluation and Grading Plan:

This course is graded as S/U (Satisfactory/Unsatisfactory). In order to get a satisfactory grade in this course, you must earn at least 75 out of 100 points for the course.

There will be five Lab Assignments, with a bonus Lab which may be in the form of a Project or Research presentation that could count in lieu of the lowest scoring Lab.

Assignment	Points
Lab 1 – Basic Unix Commands	15
Lab 2 – Regular Expressions	20
Lab 3 – Basic shell scripts and Regular expressions	20
Lab 4 – Shell programming and basic scripting	20
Lab 5 – Sed, awk, (make)	20
Attendance	5
(Bonus Lab)	(10)
Passing grade (>= 75%)	Total: **100**

Labs are to be submitted on Carmen by 11:59pm on the due date (see schedule), which are all on Mondays.

Your scripts/program must be without syntax errors and must run, otherwise you will receive zero points.

Late Submissions will not be graded or receive a grade.

Lab Assignments:
These are graded assignments based on the grading policy given above.

All Labs development will be done on the CSE Department servers. It is your responsibility to get an account on these systems to work on the first Lab (a class presentation covers this.)

All grading will be done on these systems. While you may choose to develop on your own personal computer, you should make sure that your code compiles and runs flawlessly on these systems.

Lab Submission:
You should zip your files and submit all your work electronically to Dropbox on Carmen. It is also recommended that you submit a README file to describe how to use your program/scripts.

Tentative Meeting Schedule:

Meeting	Date	Submissions	Topics
1	Aug 28		Course Introduction
2	Sept 04		Basic Unix and Shell Concepts
3	Sept 11		Unix and Shell Concepts – Processes and Working Environment
4	Sept 18	*Lab 1 due*	
5	Sept 25		Regular expressions in Unix (grep), basic scripting
6	Oct 02	*NO CLASS*	
7	Oct 09	*Lab 2 due Thurs Oct 5th*	
8	Oct 16	*Lab 3 due Fri Oct 27th*	Shell programming: script introduction, script examples, debugging scripts
9	Oct 23		
10	Oct 30	*NO CLASS*	
11	Nov 06	*Lab 4 due Mon Nov 13th*	
12	Nov 13		Advanced utilities: sed, awk, make
13	Nov 20	*NO CLASS*	
14	Nov 27	*Lab 5 due Thurs Nov 30*	
15	Dec 04		

OSU - CSE resources

The CSE Computing Services Help Desk staff is responsible for all the computers and your CSE accounts. If you have a problem with your password or username, visit them on the 8th floor of Dreese (DL 895, 292-6542).

The CSE Department has two computer labs located in Caldwell Lab 112 and Baker 310. The labs are only open at certain times and the schedule is available at http://www.cse.ohio-state.edu/cs/labs/hours.shtml.

During the hours the lab is open, a monitor or operator will be available to help with any machine problems. In addition, the lab is staffed with a consultant to help with problems in using the operating system and general tools.

You may also choose to work from home. However, you will have to install the appropriate software on your personal computer. The course instructors will not be able to assist you in setting up this sort of thing; which is not to say it is impossible, only that you shouldn't expect the instructors to help.

For setting a CSE account and computing resources check:

https://cse.osu.edu/sites/cse.osu.edu/files/uploads/resourceguide-stud-revau2013.pdf

https://cse.osu.edu/computing-services/getting-help

Other useful links to UNIX material

- [Writing CShell Scripts](#)
- [Introduction to C Shell Programming](#)
- [How to use VI editor](#)
- [How to use EMACS editor](#)
- [GNU Make](#)
- [Using the GNU text utilities](#)
- [Inside the Linux boot process](#)

Course Material

Class Presentations, Assignments, and Documents, are available on [Carmen](#).

Academic Misconduct:

In accordance with Faculty Rule 3335-31-02, all instances of alleged academic misconduct will be reported to the Department Chairperson and the Committee on Academic Misconduct (COAM). Alleged misconduct cases will be resolved via COAM's hearing processes as described in the University's Code of Student Conduct (http://studentaffairs.osu.edu/csc/).

As defined in the University's Code of Student Conduct, academic misconduct is any activity which tends to compromise the academic integrity of the institution or subvert the educational process. Students who violate the University's policies regarding academic misconduct (http://oaa.osu.edu/coam.html) are stealing academic credit and skewing the grading process against students who are honestly participating in the course. Their actions diminish the value of an academic degree when they falsely represent themselves as competent in a subject matter to their instructor, their peers, and in the workplace.

Academic misconduct includes, but is not limited to, giving or receiving information or assistance during an exam or submission of plagiarized work for academic requirements. It also includes changing graded material and turning it back in to be re-graded for a higher score.

Lab Assignments are to be your own work. High-level discussion of assignments is encouraged, but the more specific your discussion, the closer you come to a cheating misconduct.