CSCE 215: Unix/Linux Fundamentals

1. Course number and name: CSCE 215: Unix/Linux Fundamentals

2. Credit: 1-hrs; Contact: 2 lectures & 2 labs of 50 minutes each per week for 5 weeks

3. Instructor: Fall 2010: Pat O'Keefe
   Faculty Coordinator: Manton Matthews

4. Text book: Sumitabha Das, *Your UNIX: The Ultimate Guide*, 2nd Ed. McGraw Hill, 2005, ISBN: 0072520426.

5. Specific course information
   a. Catalog description: UNIX operating system, user-level system commands, and programming tools. UNIX scripting languages.

   b. Prerequisites: CSCE 145

   c. Required in All curricula

6. Specific goals for the course
   a. Specific outcomes of instruction:
      1. Use the user-level tools available in the UNIX operating system to run and build software and programs.
      2. Describe and traverse the UNIX file system.
      3. Describe and use UNIX processes, pipes, signals, and filters.
      4. Use scripting languages such as the UNIX shell and Perl.
      5. Write and use regular expressions and grammars and tools based on them such as grep and Sed to search and edit text;

   b. Relation of course outcomes to Student Outcomes: CE: see page 2; CS & CIS: see page 3

7. Topics covered and approximate weight (5 weeks, 3.5 hours/week, 17.5 hours total)
   1. Introduction: history and philosophy of UNIX, GUI; overview of UNIX commands
   2. The UNIX file system and shell Chapter 2, Combinational Systems
   3. The shell and shell commands
   4. Processes, filters, pipes, and signals
   5. Regular expressions; Sed and grep
   6. Shell scripting
   7. Programming tools; make, cvs, tar, RPM, autoconfig, and gdb

Computer Engineering

Relation of Course Outcomes to EAC Student Outcomes*

Course Outcomes (CE)	Student Outcomes											
	(a) apply knowledge of mathematics, science, and engineering	(b) design and conduct experiments, … interpret data	(c) design a system, component, or process to meet desired needs …	(d) function on multidisciplinary teams	(e) identify, formulate, and solve engineering problems	(f) an understanding of professional and ethical responsibility	(g) communicate effectively	(h) the broad education to understand the impact of engineering solutions …	(i) a recognition of the need for, and an ability to engage in life-long learning	(j) a knowledge of contemporary issues	(k) use the techniques, skills, and modern engineering tools ….	(CE) demonstrate knowledge of discrete mathematics [CE]
Criteria	a	b	c	d	e	f	g	h	i	j	k	CE
1. Use the user-level tools available in the UNIX operating system to run and build software and programs.	1	2	3		3	1	2	1	2	1	3	1
2. Describe and traverse the UNIX file system.	1	1	2		2	2	1	1	1	1	3	1
3. Describe and use UNIX processes, pipes, signals, and filters.	2	3	3		3	2	2	1	1	1	3	2
4. Use scripting languages such as the UNIX shell and Perl.	2	3	3		3	2	2	1	1	1	3	3
5. Write and use regular expressions and grammars and tools based on them such as grep and Sed to search and edit text.	3	3	3		3	2	2	1	1	1	3	3

* 3 = major contributor, 2 = moderate contributor, 1 = minor contributor; blank if not related

Computer Science & Computer Information Systems

Relation of Course Outcomes to CAC Student Outcomes*

Course Outcomes (CS & CIS)	Student Outcomes									CS		CIS
	All											
	(a) apply knowledge of computing and mathematics appropriate to the discipline	(b) analyze a problem, and identify and define the computing requirements …	c) design, implement, and evaluate a computer-based system, …	(d) function effectively on teams to accomplish a common goal	(e) An understanding of professional, ethical, legal, … responsibilities	(f) communicate effectively with a range of audiences	(g) analyze the local and global impact of computing on … society	(h) Recognition of the need for … continuing professional development	(i) current techniques, skills, and tools necessary for computing practice	(j) apply mathematical foundations, algorithmic principles, and CS theory …	(k) apply design and development principles	(j) An understand processes that support the information systems environment.
Criteria	a	b	c	d	e	f	g	h	i	j	k	j
1. Use the user-level tools available in the UNIX operating system to run and build software and programs.	1	2	3		3	1	2	2	2	1	3	1
2. Describe and traverse the UNIX file system.	1	1	2		2	2	1	1	1	1	3	1
3. Describe and use UNIX processes, pipes, signals, and filters.	2	3	3		3	2	2	1	1	1	3	2
4. Use scripting languages such as the UNIX shell and Perl.	2	3	3		3	2	2	1	1	1	3	3
5. Write and use regular expressions and grammars and tools based on them such as grep and Sed to search and edit text.	3	3	3		3	2	2	1	1	1	3	3

* 3 = major contributor, 2 = moderate contributor, 1 = minor contributor; blank if not related