

administration. Prerequisite: CIS 110 or equivalent. Recommended preparation: eligibility for ENGL 838/848. Pass/No Pass or letter grade option. (AA, CSU)

6. **Student Learning Outcomes** (Identify 1-6 expected learner outcomes using active verbs.)

Upon successful completion of the course, the student will be able to:

1. Describe the functions of an operating system.
2. Employ common UNIX shell features including I/O redirection, piping, command substitution, and simple job control.
3. Explain shell-specific facilities including the use of environmental and local variables, and the built-in programming language.
4. Analyze problems and design UNIX solutions using shell command files and scripts.
5. Describe how UNIX supports processes, memory management, input/output, and the file system.
6. Set up a UNIX or Linux environment.
7. Use common and advanced UNIX utilities.
8. Describe the main UNIX system administration tasks.

7. **Course Objectives** (Identify specific teaching objectives detailing course content and activities. *For some courses, the course objectives will be the same as the student learning outcomes. If this is the case, please simply indicate this in this section).*

See Student Learning Outcomes

8. **Course Content** (Brief but complete topical outline of the course that includes major subject areas [1-2 pages]. Should reflect all course objectives listed above. In addition, you may attach a sample course syllabus with a timeline.)

See attached topical outline

9. **Representative Instructional Methods** (Describe instructor-initiated teaching strategies that will assist students in meeting course objectives. Include examples of out-of-class assignments, required reading and writing assignments, and methods for teaching critical thinking skills.)

The course will include the following instructional methods as determined appropriate by the instructor:

- Lecture will be used to introduce new topics;
- Teacher will model problem-solving techniques;
- Class will solve a problem together, each person contributing a potential "next step";
- Students will participate in short in-class projects (in teacher-organized small groups) to ensure that students experiment with the new topics in realistic problem settings;
- Teacher will invite questions AND ANSWERS from students, generating discussion about areas of misunderstanding;
- Teacher will create and manage an Internet conference for discussion of course topics; and
- Students will work in small groups to solve programming assignments.

10. **Representative Methods of Evaluation** (Describe measurement of student progress toward course objectives. Courses with required writing component and/or problem-solving emphasis must reflect critical thinking component. If skills class, then applied skills.)

- Bi-weekly quizzes (short answer--from textbook material) to provide feedback to students and teacher on objectives 1 - 5;

- Assessment of student contributions during class discussion and project time to assess objectives 1-8;
- Individual programming assignments to assess objectives 1-8;
- Midterm and Final exams (short answer (textbook material), general problem solving (similar to in-class work), short program segments (similar to programming assignments)) to assess objectives 1-5 and 7-8;
- Assessment of group participation on course projects, including peer-assessment of participation and contribution to the group effort to assess objectives 1-5 and 8.

11. **Representative Text Materials** (With few exceptions, texts need to be current. Include publication dates.)

A Practical Guide to Red Hat Linux with DVD, Sobell, Prentice Hall ISBN 0-1322802-7-2, 2006

Unix in a Nutshell, Robbins, O'Reilly ISBN 0-5961002-9-9, 2008

Unix Visual Quickstart Guide, Ray & Ray, Peachpit Press ISBN 0-3214424-5-8, 2006

Guide to Unix Using Linux, Palmer, Course Technology ISBN 1-4188372-3-7, 2007

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