

PELLISSIPPI STATE TECHNICAL COMMUNITY COLLEGE  
MASTER SYLLABUS

**UNIX UTILITIES & SHELL PROGRAMMING**  
**CSIT 2460**

**Class Hours: 3.0**

**Credit Hours: 4.0**

**Laboratory Hours: 3.0**

**Revised: Spring 07**

NOTE: This course is not designed for transfer credit.

**Catalog Course Description:**

A study of the UNIX operating system. Topics include use of UNIX utilities, electronic mail, and shell programming.

**Entry Level Standards:**

The entering student should have a familiarity with the MS-DOS operating system. The student is expected to have moderate programming abilities in a high-level language.

**Prerequisites:**

CSIT 1110 and one programming course

**Textbook(s) and Other Course Materials:**

Required:

Das; *Your Unix: The Ultimate Guide*; 2<sup>nd</sup> Edition, McGraw-Hill, 2006.

Robbins & Beebe; *Classic Shell Scripting*; O'Reilly, 2005

**I. Week/Unit/Topic Basis:**

| <b>Week</b> | <b>Topic</b>                       |
|-------------|------------------------------------|
| 1           | Getting started                    |
| 2           | Understanding the Unix command     |
| 3           | General purpose utilities          |
| 4           | The vi/vim editor, The file system |
| 5           | The file system, File attributes   |
| 6           | The shell                          |
| 7           | Simple filters                     |
| 8           | The process, TCP/IP networking     |
| 9           | Email, The Internet                |
| 10          | Shell programming                  |

- 11 Shell programming
- 12 Advanced shell programming
- 13 Using Awk
- 14 Perl
- 15 Final Exam Period

## **II. Course Objectives\*:**

- A. Use basic Unix commands and utilities. II, III, IV, VI, VII, VIII, IX, X, XII
- B. Use redirection and piping. II, III, IV, VI, VIII, IX, X, XII
- C. Produce and use simple user interfaces. I, III, IV, V, IX, XI, XII
- D. Use common Unix text editors. III, IV, VI, VIII, IX, XI
- E. Write shell programs. III, IV, V, VI, IX, XI

\*Roman numerals after course objectives reference goals of the CSIT program.

## **III. Instructional Processes\*:**

Students will:

1. Use professional tools to produce software components and documentation. *Technological Literacy, Transitional Strategy, Active Learning*
2. Create a well-documented shell application based on client input and specifications. *Communications Outcome, Technological Literacy, Transitional Strategy, Active Learning*
3. Create a CGI scripts based on client input and specifications. *Communications Outcome, Technological Literacy, Transitional Strategy, Active Learning*
4. Use professionally accepted methods and materials in their approach to completion of applications. *Technological Literacy, Transitional Strategy, Active Learning*

\*Strategies and outcomes listed after instructional processes reference TBR's goals for strengthening general education knowledge and skills, connecting coursework to experiences beyond the classroom, and encouraging students to take active and responsible roles in the educational process.

## **IV. Expectations for Student Performance\*:**

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

1. Write shell scripts in C shell and/or Bourne shell. A, B, C, E
2. Use Unix commands to solve problems. A, B, C
3. Customize a Unix environment for a specific application. A, B, C, E

4. Produce formatted documents using Unix text processing tools. A, D, E
5. Apply the 'tool box' concept to specific problems. A, B, C, D
6. Be able to perform file management activities to their file system. A, B, D
7. Use vi and/or emacs and/or pico editor to create and edit files. A, D, E
8. Be familiar with the development of the Unix system. A, B, D

\*Letters after performance expectations reference the course objectives listed above.

## **V. Evaluation:**

### A. Testing Procedures:

At least 4 tests will be given. Tests may only be made up for excused absences. An excused absence is one that can be verified by supporting documentation. Failure to make a passing quiz average will result in a grade of F for the course.

### B. Laboratory Expectations:

Laboratory Expectations: At least 5 lab projects will be assigned during the course of the semester. Failure to make a passing lab project average will result in a grade of F for the course.

### C. Field Work:

N/A

### D. Other Evaluation Methods:

N/A

### E. Grading Scale:

93 - 100 A  
88 - 92 B+  
83 - 87 B  
78 - 82 C+  
73 - 77 C  
65 - 72 D  
Below 65 F

## **VI. Policies:**

### A. Attendance Policy:

Pellissippi State Technical Community College expects students to attend all scheduled instructional activities. As a minimum, students in all courses must be present for at least 75 percent of their scheduled class and laboratory meetings in order to receive credit for the course (*Pellissippi State Catalog*).

B. Academic Dishonesty:

Plagiarism, cheating and other forms of academic dishonesty are prohibited. A student guilty of academic misconduct, either directly or indirectly through participation or assistance, is immediately responsible to the instructor of the class. In addition to other possible disciplinary sanctions that may be imposed through the regular Pellissippi State procedures as a result of academic misconduct, the instructor has the authority to assign an F or a zero for the exercise or examination or to assign an F in the course.

C. Accommodations for disabilities:

If you need accommodations because of a disability, if you have emergency medical information to share, or if you need special arrangements in case the building must be evacuated, please inform the instructor immediately. Please see the instructor privately after class or in his/her office. Students must present a current accommodation plan from a staff member in Services for Students with Disabilities (SSWD) in order to receive accommodations in this course. Services for Students with Disabilities may be contacted by going to Goins 127 or 131 or by phone: 694-6751(Voice/TTY) or 539-7153.

D. Other Policies:

In the event that you have an emergency beyond your control, you must notify the instructor as soon as possible.