PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

X Transfer Course X A.A. Degree applicable course
(check all that apply)

COURSE NUMBER AND TITLE: CSIS 226 Advanced UNIX Operating Systems

UNIT VALUE: 2

MINIMUM NUMBER OF SEMESTER HOURS: 64

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS

PREREQUISITE: CSIS 225 UNIX Operating System

COREQUISITE: None

RECOMMENDED PREPARATION: None

SCOPE OF COURSE: Intermediate concepts of shell script programming, advanced utilities, file management, and alternative editors. Includes usage of sed (stream editor), awk (A UNIX scripting language) and graphical user interfaces. Introduction to UNIX networking concepts.

SPECIFIC COURSE OBJECTIVES: Successful students will:

1. Identify various shell interfaces
2. Utilize advanced utilities
3. Utilize editors
4. Apply shell script programming concepts
5. Demonstrate manipulating and managing files
6. Interface with graphical user interfaces

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

I. Advanced UNIX Operating System
  A. Various Shell Definitions
    1. Bourne
    2. C Shell
    3. Korn
    4. Bash
    5. Perl
  B. Shell Script Definition
  C. Processes
  D. Developing a script
    1. Standard UNIX editors

- E. Executing a simple script
  - 1. Explicit vs. Implicit

II. Script Contents
- A. File Name Generation
- B. Built-in Commands
- C. Shell Escape Characters
- D. File Test Operators
- E. File Designators
  - 1. Redirecting Standard Error
- F. Test Operators
  - 1. Integer
  - 2. String
  - 3. Logical

III. Shell Parameters and Variables
- A. Positional
- B. Keyword
- C. Automatic
- D. Variables
  - 1. Shell
  - 2. User
- E. Additional Shell Variables
- F. Parameter Substitution
- G. Regular Expression

IV. Conditional Processing Constructs
- A. if then
- B. if then else
- C. if then elif else
- D. Looping Constructs
  - 1. for in
  - 2. while
  - 3. until
- E. Case statement
- F. Functions

V Processing data
- A. read
- B. redirecting
- C. piping
- D. command substitution

VI Shell Functions and Alias
- A. syntax and accessibility

VII Sed - The Stream Editor
- A. batch utility editor
  - 1. Command line and script file syntax

VIII Awk - Another Programming Language
- A. Pattern-scanning and processing language syntax
  - 1. format
  - 2. conditional execution
- B. Looping constructs
  - 1. variables
  - 2. regular expression
  - 3. C's printf

IX. Scripts Maintenance and debugging
   A. Documentation and shell trace

REQUIRED READING: Kochan, Stephen G. Wood, Patrick H. UNIX Shell Programming. Indiana: Hayden Books, 1989.

SUGGESTED READING: Sage, Russel G. Tricks of the UNIX Masters. Indiana: Sams, 1987

REQUIRED WRITING: Program documentation includes technical writing for documents such as the job description and flowcharts. Internal program documentation is also required.

OUTSIDE ASSIGNMENTS: Student is expected to complete reading and homework assignments, studying lecture and exam notes, and develop shell programming scripts. Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short-term classes.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:
_____ lecture
_____ laboratory
__X__ lecture-laboratory combination
_____ directed study

DISTANCE LEARNING:

This course may be offered as a distance learning course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.
Yes ____ No_X___

If yes, check all that apply:

_X____ Television Course (Video one-way, e.g. ITV, video cassette, etc.)
_X____ Online Course (Text one-way, e.g. newspaper, correspondence, electronic file, etc.)
_____ Two-Way Video Conferencing (Two-way interactive video and audio)
_____ One-Way Video Conferencing (One-way interactive video and two-way interactive audio)
_X____ Computer Assisted Instruction (A specialized form of mediated instruction relying primarily on student access to information and prepared lessons or teaching materials through a computer terminal, but not under immediate supervision of a qualified instructor.)

GRADING POLICY AND STANDARDS (include methods of determining whether the stated objectives have been met by students):

The following methods will be used to determine the student's proficiency in the subject matter and progress in achieving the course objectives:

Programming Assignments	40%	(minimum--7 to 10 programs)
Mid Term Examinations.....	10%	
Homework Assignments	10%	(minimum--5 assignments)
Final Examination	30%	
Class participation	10%	(discussions and non- 100%
	100%	programming assignments)

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?
Yes ____ No _X__ Number of times course may be taken for credit: _____

If yes, identify specific provision of Title 5 Division 2 section(s), 55761-55763 and 58161 which qualifies course as repeatable:

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SIGNATURES ON FILE