

CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS
COURSE MODIFICATION PROPOSAL
Courses must be submitted by November 3, 2008,
to make the next catalog (2009-2010) production

DATE (CHANGE DATE EACH TIME REVISED): OCTOBER 1, 2008 REV 11.14.08

PROGRAM AREA(S): COMPUTER SCIENCE)

Directions: All of sections of this form must be completed for course modifications. All documents are stand alone sources of course information.

1. Course Information.

[Follow accepted catalog format.] (Add additional prefixes if cross-listed)

OLD

Prefix COMP Course# 421 Title Unix for Programmers
 Units (3)
 3 hours lecture per week
 hours blank per week

- Prerequisites: Comp 151, Comp362
- Consent of Instructor Required for Enrollment
- Corequisites:

Catalog Description (Do not use any symbols):

In this course students will become proficient in the use of Unix operating environment including command line Unix utilities, vi and emacs editors, regular expressions, text processors and Unix shells. Discover fundamental Perl and its application in programming CGI. Learn how to write in C utilities that control the operating environment through the use of system calls. Find out how to develop programs using Unix facilities.

- Gen Ed Categories
- Lab Fee Requested
- Course Level:
 - Undergraduate
 - Post-bac/Credential
 - Graduate
- Graded
 - CR/NC
 - A - F
- Repeatable for up to units Total Completions
 - Multiple Enrollment in same semester
- Optional (Student's choice)

NEW

Prefix COMP Course# 421 Title Unix for Programmers
 Units (3)
 3 hours lecture per week
 hours blank per week

- Prerequisites: Comp 350 and Comp 362
- Consent of Instructor Required for Enrollment
- Corequisites:

Catalog Description (Do not use any symbols):

The use of Unix operating environment including command line Unix utilities, vi and emacs editors, regular expressions, text processors and Unix shells, fundamental Perl and its application in programming CGI. Writing in C utilities that control the operating environment through the use of system calls. Developing programs using Unix facilities.

- Gen Ed Categories
- Lab Fee Requested
- Course Level:
 - Undergraduate
 - Post-bac/Credential
 - Graduate
- Graded
 - CR/NC
 - A - F
- Repeatable for up to units Total Completions
 - Multiple Enrollment in same semester
- Optional (Student's choice)

2. Mode of Instruction (Hours per Unit are defaulted)

Hegis Code(s) _____
 (Provided by the Dean)

Existing

Proposed

	Units	Hours Per Unit	Benchmark Enrollment	Graded		Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture	<u>3</u>	<u>1</u>	<u>24</u>	<input checked="" type="checkbox"/>	Lecture	<u>3</u>	<u>1</u>	<u>24</u>	<input checked="" type="checkbox"/>	_____
Seminar	_____	_____	_____	<input type="checkbox"/>	Seminar	_____	_____	_____	<input type="checkbox"/>	_____
Lab	_____	_____	_____	<input type="checkbox"/>	Lab	_____	_____	_____	<input type="checkbox"/>	_____
Activity	_____	_____	_____	<input type="checkbox"/>	Activity	_____	_____	_____	<input type="checkbox"/>	_____
Field Studies	_____	_____	_____	<input type="checkbox"/>	Field Studies	_____	_____	_____	<input type="checkbox"/>	_____
Indep Study	_____	_____	_____	<input type="checkbox"/>	Indep Study	_____	_____	_____	<input type="checkbox"/>	_____
Other blank	_____	_____	_____	<input type="checkbox"/>	Other blank	_____	_____	_____	<input type="checkbox"/>	_____

3. Course Attributes:

General Education Categories: All courses with GE category notations (including deletions) must be submitted to the GE website: <http://summit.csuci.edu/geapproval>. Upon completion, the GE Committee will forward your documents to the Curriculum Committee for further processing.

A (English Language, Communication, Critical Thinking)

- A-1 Oral Communication
- A-2 English Writing
- A-3 Critical Thinking

B (Mathematics, Sciences & Technology)

- B-1 Physical Sciences
- B-2 Life Sciences – Biology
- B-3 Mathematics – Mathematics and Applications
- B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)

- C-1 Art
- C-2 Literature Courses
- C-3a Language
- C-3b Multicultural

D (Social Perspectives)

E (Human Psychological and Physiological Perspectives)

UDIGE/INTD Interdisciplinary

Meets University Writing Requirement

Meets University Language Requirement

- American Institutions, Title V Section 40404: Government US Constitution US History
- Refer to website, Exec Order 405, for more information: <http://senate.csuci.edu/comm/curriculum/resources.htm>
- Service Learning Course (Approval from the Center for Community Engagement must be received before you can request this course attribute).

4. Justification and Requirements for the Course. *[Make a brief statement to justify the need for the course]*

OLD

In the age of Graphical User Interfaces one may ask a question why should we bother with studying Unix with its enigmatic command line interface and hacker culture. Shouldn't we do everything using windows, menus, mice and clicking? In spite of prevalence of these high level paradigms, a lot of computer science work is done at a low, grass root level. Very often computer scientists - especially those working in the Information Technology industry - end up with nothing else but a terminal to work with. No menus, no mouse control, no graphics. In this course, the students will learn how to deal with such and many other problems. Many backend systems use Unix or Linux as the operating system for their servers. Many embedded systems are also built around derivatives of Linux. While there are more or less sophisticated and comprehensive tools to develop and operate these systems, the most secure jobs are reserved for those who understand how the heart of the system beats. That does not come through a Windows GUI or Web browser application. When it comes to solving many problems, the only way is to pull up the sleeves and get hands dirty using a command line, text-based interface and a multitude of available tools.

- Requirement for the Major/Minor
- Elective for the Major/Minor

NEW

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- Requirement for the Major/Minor
- Elective for the Major/Minor

Submit Program Modification if this course changes your program.

5. Learning Objectives. (List in numerical order)

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

OLD

1. Discuss the philosophy of Unix Operating System
2. Control Unix using command line interface
3. Use regular expressions
4. Edit streams with sed and awk
5. Edit files with vi and emacs
6. Program scripts in Bourne Shell
7. Program in Perl
8. Develop applications using Unix development tools
9. Develop applications in C that control Unix-based systems through the use of system calls.

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

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2. Control Unix using command line interface
3. Use regular expressions
4. Edit streams with sed and awk
5. Edit files with vi and emacs
6. Program scripts in Bourne Shell
7. Program in Perl
8. Develop applications using Unix development tools
9. Develop applications in C that control Unix-based systems through the use of system calls..

6. Course Content in Outline Form. (Be as brief as possible, but use as much space as necessary)

OLD

What is Unix?
Unix utilites for non-programmers
Editing files with emacs and vi
Unix utilities for power users
regex: regular expressions
awk
sed
perl
Introduction to Unix Shells
bash: the Bourne Again Shell
C programming Tools
make: Unix file dependency system
ANT: Java file dependency system
Command line clients for CVS, Subversion
ar: nix archiver
gdb: Gnu debugger
jdb: Java command line debugger
System Programming

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What is Unix?
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make: Unix file dependency system
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Command line clients for CVS, Subversion
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gdb: Gnu debugger
jdb: Java command line debugger
System Programming

Does this course content overlap with a course offered in your academic program? Yes No

If YES, what course(s) and provide a justification of the overlap.

Does this course content overlap a course offered in another academic area? Yes No

If YES, what course(s) and provide a justification of the overlap.

Overlapping courses require Chairs' signatures.

7. Cross-listed Courses (Please note each prefix in item No. 1)

- A. List cross-listed courses (Signature of Academic Chair(s) of the other academic area(s) is required).
- B. List each cross-listed prefix for the course:
- C. Program responsible for staffing:

8. References. [Provide 3-5 references]

OLD Unix for Programmers and Users 3/e Graham Glass, King Ables, Pearson Prentice-Hall, 2003
Unix in a nutshell, Arnold Robbins, 3/E O'Reilly, 1999
Programming Perl, Larry Wall, Tom Christiansen, Randal L. Schwartz, 3/E O'Reilly, 2000
sed & awk, Dale Dougherty, Arnold Robbins, 2/E, O'Reilly, 1997
Learning the bash Shell, Cameron Newham, 3/E, O'Reilly, 2005

Mastering Regular Expressions, Jeffrey E. F. Friedl, 2/E, O'Reilly, 2002

NEW Unix for Programmers and Users 3/e Graham Glass, King Ables, Pearson Prentice-Hall, 2003

Unix in a nutshell, Arnold Robbins, 3/E O'Reilly, 1999

Programming Perl, Larry Wall, Tom Christiansen, Randal L. Schwartz, 3/E O'Reilly, 2000

sed & awk, Dale Dougherty, Arnold Robbins, 2/E, O'Reilly, 1997

Learning the bash Shell, Cameron Newham, 3/E, O'Reilly, 2005

Mastering Regular Expressions, Jeffrey E. F. Friedl, 2/E, O'Reilly, 2002

9. Tenure Track Faculty qualified to teach this course.

All Computer Science faculty

10. Requested Effective Date or First Semester offered: Fall 2009

11. New Resource Requested: Yes No

If YES, list the resources needed.

A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)

B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)

C. Facility/Space/Transportation Needs:

D. Lab Fee Requested: Yes No. Refer to the Dean's Office for additional processing

E. Other.

12. Indicate Changes and Justification for Each. [Check all that apply and follow with justification. Be as brief as possible but, use as much space as necessary.]

- | | |
|---|---|
| <input type="checkbox"/> Course title | <input type="checkbox"/> Course Content |
| <input type="checkbox"/> Prefix/suffix | <input type="checkbox"/> Course Learning Objectives |
| <input type="checkbox"/> Course number | <input type="checkbox"/> References |
| <input type="checkbox"/> Units | <input type="checkbox"/> GE |
| <input type="checkbox"/> Staffing formula and enrollment limits | <input type="checkbox"/> Other cross listing |
| <input checked="" type="checkbox"/> Prerequisites/Corequisites | <input type="checkbox"/> Reactivate Course |
| <input checked="" type="checkbox"/> Catalog description | |
| <input type="checkbox"/> Mode of Instruction | |

Justification: Students need the background of both Software Engineering and Operating Systems in order to fully appreciate the topics covered in this course.

13. Will this course modification alter any degree, credential, certificate, or minor in your program? YES NO

If, YES attach a program update or program modification form for all programs affected.

Priority deadline for New Minors and Programs: **October 6, 2008** of preceding year.

Priority deadline for Course Proposals and Modifications: **November 3, 2008**.

Last day to submit forms to be considered during the current academic year: **April 15th**.

William Wolfe

10/2/08

Proposer(s) of Course Modification

Date

Type in name. Signatures will be collected after Curriculum approval.

Approval Sheet

Course: Comp 421

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

Program Chair		
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Signature

Date

Program Chair		
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Signature

Date

Program Chair		
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Signature

Date

General Education Chair		
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Signature

Date

Center for Intl Affairs Director		
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Signature

Date

Center for Integrative Studies Director		
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Signature

Date

Center for Multicultural Engagement Director		
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Signature

Date

Center for Civic Engagement and Service Learning Director		
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Signature

Date

Curriculum Chair		
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Signature

Date

Dean of Faculty		
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Signature

Date