

NEW COURSE PROPOSAL**Courses must be submitted by November 9, 2007, to make the next catalog production**DATE (*Change if modified*)

11/05/2007 FROM GE 2.21.08 REV 2.28.08

PROGRAM AREA(S)

COMPUTER SCIENCE

1. Catalog Description of the Course. *[Follow accepted catalog format.]***Prefix(es)** (Add additional prefixes if cross-listed) **COMP** **Course No. 121****Title: INTRODUCTION TO PROGRAMMING IN C** **Units: 3**☐ Prerequisites☐ Corequisites☐ Consent of Instructor Required for Enrollment**Description** (Do not use any symbols): **Introduces the student to problem solving using algorithmic methods implemented in the C programming language. The C programming language is presented in a manner appropriate for students with no prior programming experience. The emphasis is on scientific applications within a UNIX environment.****Grading Scheme:**☒ A-F Grades☐ Credit/No Credit☐ Optional (Student Choice)**Repeatability:**☐ Repeatable for a maximum of
units

Total Completions Allowed

☐ Multiple Enrollment in Same Semester**Lab Fee Required:** ☒**Mode of Instruction/Components** (*Hours per Unit are defaulted*).

	Units	Hours per Unit	Benchmark Enrollment	Graded Component	CS & HEGIS # (Filled in by the Dean)
Lecture	3	1	20	☒	
Seminar		1		☐	
Laboratory		3		☐	
Activity		2		☐	
Field Studies				☐	
Indep Study				☐	
Other Blank				☐	

The following two lines will be filled out internally based on the Mode of Instruction data directly above.

3 hours lecture per week (*Use 2nd line only if necessary*)

hours blank per week

Course Attributes:☐ **General Education Categories:** All courses with GE categories notations (including deletions) must be processed at 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

3. Justification and Requirements for the Course. (Make a brief statement to justify the need for the course)

A. Justification: This is the first in a course sequence (Comp 121, Comp 221, Comp 421) that emphasizes C programming in a UNIX environment. This sequence is of interest to scientists and engineers who work with UNIX-based applications (which now includes Mac OS). This thread will also be of interest to the Computer Science and Information Technology majors, but their required sequence is Comp 105, Comp 150, and Comp 151, a sequence that emphasizes Object-Oriented Programming in the Java programming language, taught in a Windows environment. The C/UNIX sequence will complement the existing OO/Windows sequence and thereby serve a wider group of students.

B. Degree Requirement: ☐ Requirement for the Major/Minor
☒ Elective for the Major/Minor

Note: Submit Program Modification if this course changes your program.

4. Learning Objectives. (Bullets, will occur upon carriage return)

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

- solve scientific problems using algorithmic and structured approaches
- develop algorithms using pseudocode, flowcharts and other design methods
- design, implement, test and debug C programs
- compile and manage C programs and related files in a UNIX environment
- use C and Unix skills to solve a variety of numerical, mathematical, and scientific problems.

5. Course Content in Outline Form. [Be as brief as possible, but use as much space as necessary]

- I. Introduction to computers
- II. Algorithms
- III. Pseudocode and flowcharts
- IV. Numbering systems
- V. Principles of program development
- VI. Structure of a C program
- VII. Functions
- VIII. Making decisions
- IX. Repetition
- X. Input/Output
- XI. Arrays
- XII. Pointers
- XIII. Strings
- XIV. Simple structures

Does this course overlap a course offered in your academic program? YES ☒ NO ☐

If YES, what course(s) and provide a justification of the overlap? Comp 121 overlaps Comp 105 in the area of general algorithmic developments, but the emphasis in Comp 121 on C/UNIX is sufficiently different from the Javascript/Windows approach used in Comp 105 that it warrants a separate class.

Does this course overlap a course offered in another academic area? YES ☐ NO ☒

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

Signature of Academic Chair(s) of the other academic area(s) is required on the signature sheet below.

6. Cross-listed Courses (Please fill out separate description in item 1 above, for each PREFIX)

A. List Cross-listed Courses (Signature of Academic Chair(s) of the other academic area(s) is required).

Prefix for cross-listed discipline(s):

B. Department responsible for staffing:

7. References. [Provide 3 - 5 references on which this course is based and/or support it.]

- Computer Science: A Structured Programming Approach Using C by B. A. Forouzan and R. F. Gilberg
- C Programming: The Essentials for Engineers and Scientists by David R. Brooks
- C for Engineers and Scientists: An Introduction to Programming With ANSI C by G. J. Bronson and H. Silver
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8. List Faculty Qualified to Teach This Course.

- ALL CS FACULTY

9. Effective Date

A. First semester offered: Fall 2008

10. New Resources Required. YES ☐ NO ☒

If YES, list the resources needed and obtain signatures from the appropriate programs/units on the sheet below.

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

B. Library needs

C. Facility/space needs

11. Will this new course alter any degree, credential, certificate, or minor in your program? YES ☐ NO ☒

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

Catalog deadline for New Minors and Programs (including modifications): October 15, 2007, preceding year.

Catalog deadline for Course Proposals and Modifications: November 9, 2007, of preceding year.

Last day to submit any work to be considered for the academic year: April 15th.

Andrzej (AJ) Bieszczad

Proposer of Course

11/5/2007

Date

Approval Sheet
Program/Course:

Program Chair(s)

Date

Program Chair(s)

Date

General Education Chair(s)

Date

Curriculum Committee Chair(s)

Date

Dean of Faculty

Date