

NEW COURSE PROPOSAL

Courses must be submitted by October 15, 2013, and finalized by the end of that fall semester for the next catalog production.

Use YELLOWED areas to enter data.

DATE (*Change if modified and redate file with current date*)

10/3/13; REV 10.15.13

PROGRAM AREA(S)

COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

1. Course Information. *[Follow accepted catalog format.]*

Prefix(es) (Add additional prefixes if cross-listed) and **Course No.** IT 403

Title: ADVANCED PROGRAMMING FOR HEALTH INFORMATICS **Units:** 3

X Prerequisites IT 152

Corequisites

Consent of Instructor Required for Enrollment

Catalog Description (Do not use any symbols): **Course** in computer programming for Health Informatics professionals. Design and implementation of advanced algorithms and sophisticated data structures. Emphasis on large data sets relevant to Health Information Systems.

Grading Scheme:

X A-F Grades

Credit/No Credit

Optional (Student Choice)

Repeatability:

Repeatable for a maximum of units

Total Completions Allowed

Multiple Enrollment in Same Semester

Course Level Information:

X Undergraduate

Post-Baccalaureate/Credential Graduate

Mode of Instruction/Components (*Hours per Unit are defaulted*).

	Units	Hours per Unit	Default Section Size	Graded Component	CS & HEGIS # (Filled in by the Provost's Office)
Lecture	3	1	24	y	
Seminar		1			
Laboratory		3			
Activity		2			
Field Studies					
Indep Study					
Other Blank					

Leave the following hours per week areas blank. The hours per week will be filled out for you.

3 hours **lecture** per week

hours blank per week

Is this course always delivered online? Yes_____ No_X_ (Answer YES if the course is ALWAYS delivered online).

2. 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 (Graduation Writing Assessment Requirement)

Meets University Language Requirement

American Institutions, Title V Section 40404: ☐ Government ☐ US Constitution ☐ US History
Regarding 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).

Online Course (Answer YES if the course is ALWAYS delivered online).

Lab Fee Request – Lab fee requests should be directed to the Student Fee Committee.

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

A. Justification: This is a required course for the Health Informatics emphasis within the Health Science BS

B. Degree Requirement: ☒ Requirement for the Major/Minor **Note: Submit Program Modification if this course changes your program.**
☐ Elective for the Major/Minor
☐ Free Elective

4. Student Learning Outcomes. List in numerical order. Please refer to the Curriculum Committee's "Learning Outcomes" guideline for measurable outcomes that reflect elements of Bloom's Taxonomy: <http://senate.csuci.edu/comm/curriculum/resources.htm>. The committee recommends 4 to 8 student learning outcomes, unless governed by an external agency (e.g., Nursing).

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

1. Analyze advanced problems in Health Informatics systems and design algorithms to solve them.
2. Design and implement algorithms that process large data sets efficiently.
3. Analyze the structure of an EMR/EHR system along with its data and interfaces
4. Evaluate alternative data processing options
5. Create documentation for non-technical users
6. Synthesize ideas clearly and convincingly in oral and written form

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

1. Introduction to Electronic Medical Records
2. Confidentiality – HIPAA
3. Large data sets
4. Introduction to files, accessing and manipulating from a program
5. Big O notation and algorithm scalability
6. Merging and correlating large data sets
7. Database systems

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. Some overlap with COMP/IT Database systems and with COMP 151 Data structures but IT 403 concentrates on application in Health Informatics

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.

6. Cross-listed Courses (Please note each prefix in item No. 1) Beyond three disciplines consult with the Curriculum Committee.

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

List each cross-listed prefix for the course: ☐

B. Program responsible for staffing: Computer Science and Information Technology

7. References. [Provide 3 - 5 references]

Date, Introduction to database systems (8th edition) 2003 , Addison-Wesley, ISBN 978-0321197849

Sittig and Ash, Clinical Information Systems; Overcoming adverse consequences, 2011, Jones and Bartlett,, ISBN 9780763757649

Kinser, Python for bioinformatics, 2009, Jones and Bartlett, ISBN 978-0763751869

Cozens, Advanced Perl programming (2nd edition), 2005, O'Reilly, ISBN 978-0596004569

8. Tenure Track Faculty Qualified to Teach This Course.

All Computer Science faculty

9. Requested Effective Date:

First semester offered: Fall 2014

10. New Resources 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** ☒ (Lab fee requests should be directed to the Student Fee Committee)

E. Other

☐

11. Will this new course 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 1, 2013** of preceding year.

Priority deadline for Course Proposals and Modifications: **October 15, 2013**, of preceding year.

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

Peter Smith

10/3/13

Proposer of Course (Type in name. Signatures will be collected after Curriculum approval)

Date

Approval Sheet

Program/Course: IT 403

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.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
Signature		Date
Program Chair		
Signature		Date
Program Chair		
Signature		Date
General Education Chair		
Signature		Date
Center for International Affairs Director		
Signature		Date
Center for Integrative Studies Director		
Signature		Date
Center for Multicultural Engagement Director		
Signature		Date
Center for Civic Engagement Director		
Signature		Date
Curriculum Chair		
Signature		Date
AVP		
Signature		Date