UNIVERSITY OF FLORIDA
BOARD OF TRUSTEES

NEW DEGREE PROPOSAL: Bachelor of Science degree with a major in Computer Science, College of Engineering (CIP 11.0701)

OTHER SUS INSTITUTIONS OFFERING SAME PROGRAM: FAU, USF, UCF

PROPOSED BOARD ACTION

Approval of the BS with a major in Computer Science, College of Engineering.

DEMONSTRATED NEED FOR PROGRAM

Many valid, yet different, approaches to studying computer science are suitable for students with different goals. With our current degree programs, we already provide several. However, we currently do not provide a good option for those who want a very strong technical background in Computer Science but are not interested in a strong hardware emphasis. Such students must either choose the CLAS Computer Science degree,which allows students to obtain a liberal arts education but is less technically rigorous than the proposed degree; or choose the Computer Engineering degree and take hardware and engineering core courses that are not of interest to the students or valued by their future employers. The lack of flexibility for students in the Computer Engineering program eliminates the opportunity for any sort of interdisciplinary focus in that program. The proposed Computer Science degree in the College of Engineering fills this gap. The interdisciplinary electives allow this degree program to easily adapt to the increasingly interdisciplinary nature of computing and provide more flexibility for students.

BACKGROUND INFORMATION

The CISE Department's Student Services Center receives frequent inquiries from students who would like to pursue a Computer Science program through the college of Engineering. The inquiries are typically centered on the student's desire to become a software engineer without being required to complete Electrical Engineering courses. These students want to focus on engineering of new software, not on the hardware aspects taught in the advanced Electrical Engineering courses. Other inquiries stem from prospective students who in researching Computer Science degrees at other institutions found many of those degrees were from Engineering colleges. In addition, although graduates of our existing degree programs are highly regarded by those employers who are familiar with them, feedback from the CISE Industrial Advisory Board tells us that offering a standard BS in Computer Science through the College of Engineering may make it easier for some companies to effectively recruit at UF.

RELATIONSHIP TO THE UNIVERSITY'S STRATEGIC PLAN

The overarching goal of the University of Florida Strategic Plan is to "raise the University of Florida into the ranks of the nation's great universities." More specifically, the university plans to strengthen key disciplines in the core colleges. Engineering has been designated as a "core college" and within Engineering, Computer Science has been designated a key area. The new program will strengthen the undergraduate program in this key area.

UNIVERSITY OF FLORIDA BS with a major in Computer Science, College of Engineering

SUMMARY INFORMATION

Projected FTE and headcount are:

	Projected Headcount	Student FTE	Faculty Headcount	Faculty FTE
First Year	250	215		
Second Year	350	301		
Third Year	355	305		
Fourth Year	385	331		
Fifth Year	430	370		

Additional Comments:
This degree program has been approved by the faculty in the Department of Computer and Information Science and Engineering, the College of Engineering Curriculum Committee and the University Curriculum Committee.

Supporting Documentation Included:
None

Other Support Documents Available:
Full proposal approved by the University Curriculum Committee and the Faculty Senate

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Proposal for BACHELOR OF SCIENCE IN COMPUTER SCIENCE
COLLEGE OF ENGINEERING, UNIVERSITY OF FLORIDA

GENERAL EDUCATION (18)

Composition (ENC 2210).............................3 Humanities*..6-9
Social and Behavioral Sciences*...................6-9 International Studies and Diversity**.....................6

*   Students may vary the number of hours completed in the humanities and social and behavioral studies categories. No fewer than six and no more than nine hours may be taken in each category.

**   These courses may be selected from courses that simultaneously fulfill the general education area requirement in social and behavioral science (S) and humanities (H).

***   The mathematics, physical and biological science requirements are listed with the departmental requirements below.

DEPARTMENTAL REQUIREMENTS

Mathematics (24)
MAC 2311   Analytic Geometry & Calculus 1 (SAT II=540)... 4
MAC 2312   Analytic Geometry & Calculus 2....................4
MAC 2313   Analytic Geometry & Calculus 3..................4

    MAP 2302 Elementary Differential Equations (Cal 2)........3
OR EGM 3311 Intro to Engineering Analysis (Cal 3)..............3

    MAS 3114 Computational Linear Algebra (Cal 2 & a prg. lang.)3
OR MAS 4105 Linear Algebra 1 (Cal 3)...........................4

STA 3032   Engineering Statistics (Cal 3)...................... 3

COT 4501   Num. Analysis: Comp. Approach (CIS 3020, MAS3114)
OR MAD 4401 Intro to Num. Analys. (MAS 3114/4105 & a prog. lang)3

Physics (8)
PHY 2048   Physics w/Cal 1 (HS Physics, Cal 1; Cal 2, PHY2048L).. 3
PHY 2048L   Lab for PHY 2048 (PHY 2048).........................1
PHY 2049   Physics w/Cal 2 (PHY 2048; Cal 3, PHY 2049L)....3
PHY 2049L   Lab for PHY 3049 (PHY 2049).........................1

Chemistry (4)
CHM 2045   General Chemistry (SAT II=480; CHM 2045L)......3
CHM 2045L   Lab for CHM 2045 (CHM 2045).....................1

Communcations (6)
Approved writing or public speaking courses

Interdisciplinary Electives (15)
All credits must be applied towards a chosen minor
or
All courses must be at the 3000 level or above and in the same area (advisor approval required)

Computer Science Major Courses (33)
CIS 3020 Advanced Prog Fund (Cal 1, prog experience)...................3
OR both   CIS 3022 Prog Fund I (Cal 1) 3
    and CIS3023 Prog Fund II (Prog Fund I) 3

COP 3530   Data & Alg. Structures(CIS 3020, COT 3100, Cal 2)............4
COT 3100   Applic.of Discrete Structures (Cal 1, CIS 3020).........3

CDA 3101   Intro to Computer Org (Cal 1, CIS 3020)..................3
CEN 3031   Intro to Software Engineering (COP 3530)........ 3
CEN 4500C   Comp. Network Fund. (COP 3530, CDA 3101, COP 4600) 4
CIS 4914   Computer Systems Design-Senior Project (4EG)3
COP 4600   Operating Systems (COP 3530, CDA 3101)..........3
EEL 3701C   Digital Logic & Computer Systems (CIS 3020)...4
CIS 4301   Info System Design and Dev (COP 3530)...... 3

Ethics (1) (see notes)
EGN 4034   Professional Issues in Engineering (4EG, or consent) 1
CGS 3065   Legal & Social Issues in Computing (Exp. in UNIX).3
CGS 3090   Ethics on the Electronic Frontier (Unix, Hyper-Text)..1

Technical Electives (18)
Any 4000 level course with prefix
    CAP, CDA, CEN, CIS, COP, COT
CGS 3065   Legal & Social Issues in Computing (Exp. in UNIX).3
EIN 4354   Engineering Economy (upper div EG status)   3
STA 4321   Mathematical Statistics (STA 3032).......................3

At most, 3 credits from the following courses:
CGS 3460 (C)
COP 3013 (Survey PL)
COP 3610 (Survey OS)
CGS 3464 (C++)
COP 2121 (Cobol)
The following courses require advisor approval in order to fulfill technical elective requirements
CIS 4930   Special Topics (advisor approval)................. 3
CIS 4940   Internship (advisor approval)..................... 1-3
CIS 4949   Co-op (advisor approval)......................... 1-3

NOTES:
- Courses in parenthesis are prerequisites.
- Underlined courses are corequisites.
- An Exit Interview is required during your last semester. Please see one of the department academic advisors.
- Interdisciplinary electives may not be used to satisfy other degree requirements.
- If the chosen minor requires less than 15 credits, the remaining credits may be used for additional coursework in the area of the minor, or CS technical electives.
- Students who take CGS3065 as a technical elective simultaneously satisfy the ethics requirement
- CIS3022 may count toward technical elective credits

+Minimum Total Hours...126
This document is intended to be used only as a counseling guide. Graduation requirements are more completely specified in the UF Undergraduate Catalog.