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Glassboro State College Senate Curriculum Committee

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Approval Form

Proposal Title: Minor changes in degree model for B. S. in Computer Science

Sponsor(s) Don Stone Dept.: Math/Computer Sci. Ext. 7323

Check one: Course Specialization Concentration Minor Achievement Certificate
 Certification Program Major Program Minor Change change in req. for B.S.
(please name: deletion or credit/title/catalog change)

Undergraduate Graduate _____ Credit Hours

<p>Step 1 (Department)</p> <p><input checked="" type="checkbox"/> Approved <u>10/19/87</u> Date</p> <p><input type="checkbox"/> Not Approved</p> <p><u>Ronald J. Gabor</u> Dept. CC Chairperson</p> <p><input checked="" type="checkbox"/> Reviewed <u>10-21-87</u> Date</p> <p><u>[Signature]</u> Dept. Chairperson</p>	<p>Step 2 (Receipt)</p> <p><input type="checkbox"/> SCC# <u>87-88-18</u></p> <p>Proposal Received <u>11/18/87</u> Date</p> <p><u>Brenda A. Belay</u> SCC Chairperson</p>	<p>Step 3 (School CC)</p> <p>Reviewed <u>2/9/88</u></p> <p><input checked="" type="checkbox"/> Approved <input type="checkbox"/> Not Approved</p> <p>Comments:</p> <p><u>[Signature]</u> School Curr. Comm. Chairperson</p>
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Step 4 (Academic Dean) Comments:

Recommend
 Not Recommend
 Conditionally Recommend (see comments)

Reviewed 2-10-88
Date

[Signature]
Signature, Dean of School

Step 5 (SCC)

Open Hearing 3/8/88
Date

Approved by Senate Curriculum Committee 3/8/88
Date

Returned to sponsor(s) for the following reasons:
will be taken care of by the Dept. Ed.
OK 3/24

Step 6 (Senate)

Presented to Senate 3/25
Date

Approved Not Approved

Notification to Vice-President for Academic Affairs 3/25/88
Date

[Signature]
Signature, SCC Chairperson

Step 6 (Senate)


Received 4/7/88
Date

Approved YES No

If no, reasons are as follows:

Student credit hours NA
Faculty load hours NA
Equalized credit hours NA } PROGRAM CHANGE

Official copy and approval sheet filed 7/17/88
Date



Signature, Vice-President for Academic Affairs

Registrar

Approved course description received _____
Date

Hegis Taxonomy and Course Number assigned _____

Signature, Registrar Date

Notification forwarded:

- Senate Curriculum Committee Chairperson
- Department Chairperson(s)
- Academic Dean(s)
- Registrar
- Sponsor(s)

CURRICULUM PROPOSAL

Proposal for Minor Changes in Degree Model for B. S. in Computer Science

1. Details

- a. Change Requested: from current 54 s.h. model (attachment 1) to 56 s.h. model (attachment 2). Specifically, the changes are:
 - i. Remove Calculus I as a required major course; instead require it in the Gen. Ed. math/science category.
 - ii. Rename Computer Architecture and Assembly Language Programming as Assembly Language Programming.
 - iii. Renumber Data Structures and Algorithms from 0704.322 to 0704.222.
 - iv. Rename Topics in Computer Architecture as Computer Architecture and make it a required course.
 - v. Rename Advanced Computer Programming as Computer Science Senior Project and move it to restricted elective category i.
 - vi. Move Operating Systems from restricted elective to required course.
 - vii. Introduce new restricted elective category (i) for a large-scale project or field experience, and require 3 hours in this category; correspondingly increase restricted elective requirement from 15 s.h. to 18 s.h.
 - viii. Rename old restricted elective category i as iii, the Mathematics category; remove Physics I and Theory of Computing from it and add Differential Equations and Applications of Mathematics.
 - ix. Rename old restricted elective category ii as iv, the Business category; Field Experience is moved to category i.
 - x. Rename old restricted elective category iii as ii, the advanced Computer Science category; remove the two non-Computer Science courses (and move Operating Systems and [Topics in] Computer Architecture to the Required category), and add three courses to it (Theory of Computing, moved from the Mathematics restricted elective category, Data Communications and Networking, and Artificial Intelligence, the latter two being new courses).
 - xi. Require a 2.5 average in required and restricted elective courses together with College Composition I, instead of just in required and restricted elective courses.

- b. Sponsors: Don Stone and the faculty of the Department of Mathematics and Computer Science.

2. Rationale

- a. Computer Science is a very rapidly changing field, and thus it is to be expected that our degree model would need changes every so often. The catalyst for the current proposed changes was the Academic Program Review of Computer Science carried out during 1986-87. All of the changes itemized above either were suggested by or are compatible with the comments of the outside consultant, Dr. Elliot Koffman of Temple University's Department of Computer and Information Sciences.
- b. The proposed new degree model would apply to students entering the Computer Science major in or after September 1988, although current Computer Science majors would have the option of following the new requirements. The new degree model is probably somewhat more demanding of the student than the old model, although it does provide more flexibility in free electives. The fact that the students will be required to take more semester hours of Computer Science implies an increase in the total number of students in Computer Science classes each term. An expected modest expansion in the Computer Science faculty should be able to accommodate this increase.

3. Results of Consultation

As mentioned above, many of the changes were suggested by Dr. Elliot Koffman in his report for the Computer Science Academic Program Review. Quoting from Dr. Koffman's report, "I feel it would be appropriate to have more emphasis on computer architecture and systems software (e.g., operating systems) in the required courses." (This relates to items iv and vi above.) He also states, "I would recommend adding a course in artificial intelligence to [old] category 3." (This relates to item x above.)

Mr. Robert Loscher, Director of Information Management, Computer Services, also has reviewed the proposed changes in the Computer Science major. He is supportive of, among other aspects, the increased emphasis on written communication skills (relating to item xi above). To quote from his memo: "I would like to suggest that you consider a course in technical writing for computer types, and a course in writing manuals and reports presenting technical information to very non-technical users. In my experience, one of the most serious shortcomings of highly technically oriented

people is their inability to write in anything closely resembling English."

Computer Science alumni and current advanced Computer Science students were also consulted about the curriculum via the surveys done during the Academic Program Review. Their responses indicated general satisfaction with the curriculum but did in several cases urge the addition of courses in Data Communications and Networking and in Artificial Intelligence. (This relates to item x.)

In addition to the above, considerable consultation within the Department has been involved in producing the proposed changes itemized above. The changes have been discussed and modified during at least six Computer Science faculty meetings and two Department meetings.

THE BACHELOR OF SCIENCE IN COMPUTER SCIENCE

January 1987

GLASSBORO STATE COLLEGE

Department of Mathematics and Computer Science

This major consists of 120 semester hours. Prerequisites are shown in brackets [].

1. General Education and Physical Education - 56 s.h.
2. Free Electives - 10 s.h.
3. Major Courses - 54 s.h.
 - a. Required Courses - 39 s.h.
 - 1703.150 Discrete Mathematics [0701.102 & 1701.121]
 - 1701.130 Calculus I [1701.122 or equivalent preparation] 4 s.h.
 - 1701.131 Calculus II [1701.130; 0701.102 or equiv. prep. is corequisite] 4 s.h.
 - 1701.210 Linear Algebra [1701.131]
 - 1702.360 Probability & Statistics I [1701.131]
(or 1703.260 Statistics I [1701.122])
 - 0704.103 Structured Programming in Pascal [0701.102 or equiv. prep.]
 - 0704.204 Computer Architecture & Assembly Language Programming
[0704.103 & 1703.150]
 - 0704.322 Data Structures & Algorithms [0704.103, 1703.150 & 0704.204]
 - 0704.315 Programming Languages [0704.204 & 0704.322]
 - 0704.370 Digital Design and Lab [0704.204 & 1703.150] 4 s.h.
 - 0704.302 Advanced Computer Programming [0704.315 & 0704.322]
 - 0704.401 Compiler Design [0704.315 & 0704.322]
 - b. Restricted Electives - at least 15 s.h., including at least one course from each of three categories:
 - (i) 1701.230 Calculus III [1701.131] 4 s.h.
1701.332 Numerical Analysis [0701.102 & 1701.131]
1701.340 Modern Algebra I [1701.210]
0704.422 Theory of Computing and Complexity of Algorithms
[0704.322 & 1701.131]
1702.361 Probability & Statistics II [1702.360]
(or 1703.261 Statistics II [1703.260])
1902.200 Physics I [1701.130]
 - (ii) 0502.210 Accounting I
0702.322 Principles of System Design I [0701.102]
0507.430 Principles of Management Science [1703.202]
0702.338 Design of Data Base Systems [0702.322]
0799.300 Computer Field Experience [permission of instructor]
0704.333 Structured Design & Programming Using COBOL [0701.102]
0704.334 Advanced Structured Design & Programming Using COBOL [0704.333]
 - (iii) 4901.265 Computers & Society [0701.102]
2206.320 Computer Cartography
0704.390 Operating Systems [0704.322 & 0704.204]
0704.404 Topics in Computer Architecture [0704.204 & 0704.370]
0704.360 Computer Graphics [1701.210 & 0704.315]

Note: A 2.5 average in the required and restricted elective courses is required for graduation.

Proposed Revised Requirements for
THE BACHELOR OF SCIENCE IN COMPUTER SCIENCE
For Students Matriculating September 1988.

GLASSBORO STATE COLLEGE
Department of Mathematics and Computer Science

This major consists of 120 semester hours. Prerequisites are shown in brackets [].

1. General Education and Physical Education - 56 s.h.
2. Free Electives - 8 s.h.
3. Major Requirements - 56 s.h.
 - a. Required Courses - 38 s.h.
 - 1703.150 Discrete Mathematics [0701.102 & 1701.121]
 - 1701.131 Calculus II [1701.130; 0701.102 or equiv. prep. is corequisite] 4 s.h.
 - 1701.210 Linear Algebra [1701.131]
 - 1702.360 Prob. & Stat. I [1701.131] (or 1703.260 Stat. I [1701.122])
 - 0704.103 Structured Programming in Pascal [0701.102 or equiv. prep.]
 - 0704.204 Assembly Language Programming [0704.103 & 1703.150]
 - 0704.222 Data Structures & Algorithms [0704.103, 1703.150 & 0704.204]
 - 0704.315 Programming Languages [0704.204 & 0704.222]
 - 0704.370 Digital Design and Lab [0704.204 & 1703.150] 4 s.h.
 - 0704.380 Computer Architecture [0704.204 & 0704.370]
 - 0704.390 Operating Systems [0704.222 & 0704.380]
 - 0704.401 Compiler Design [0704.222 & 0704.315]
 - b. Restricted Electives - at least 18 s.h., including at least one course from category i:
 - (i) 0704.400 Computer Science Senior Project [0704.222 & 0704.315]
0799.300 Computer Field Experience [permission of instructor]
 - (ii) 0704.360 Computer Graphics [1701.210 & 0704.315]
0704.yyy Data Communications and Networking [0704.370, 0704.380 & 1702.360]
0704.422 Theory of Computing and Complexity of Algorithms [0704.222 & 1701.131]
0704.zzz Artificial Intelligence [0704.315, 1703.150 & 1701.210]
 - (iii) 1701.230 Calculus III [1701.131] 4 s.h.
1701.332 Numerical Analysis [0701.102 & 1701.131]
1701.340 Modern Algebra I [1701.210]
1701.353 Differential Equations [1701.230 & 1701.210]
1702.361 Prob. & Stat. II [1702.360] (or 1703.261 Stat. II [1703.260])
1703.400 Applications of Mathematics [1701.230 & 1701.210]
 - (iv) 0502.210 Accounting I
0702.322 Principles of System Design I [0701.102]
0702.338 Design of Data Base Systems [0702.322]
0507.430 Principles of Management Science [1703.125]
0704.333 Structured Design & Programming Using COBOL [0701.102]
0704.334 Advanced Structured Design & Programming Using COBOL [0704.333]

Note: A 2.5 average in the required and restricted elective courses together with College Composition I is required for graduation.



GLASSBORO STATE COLLEGE

Faculty Senate

Glassboro, New Jersey 08028-1701 (609)863-5244

November 10, 1999

Dr. Brenda Bolay, Chairperson
Faculty Senate Curriculum Committee
Savitz Library

Dear Dr. Bolay,

I am formally requesting the deletion of the concentration in Computer Science. I am supportive of the recommendation by the Faculty Senate Curriculum Committee that this concentration be deleted.

I understand that an open hearing will be scheduled. At this time, concerned members of the college community may speak for or against the deletion of this concentration.

Respectfully,

Jack R. Cimprich
Concentration Sponsor

[Signature]
Dept. Chairperson