

1989 - 90

Glassboro State College Senate Curriculum Committee

# Approval Form

Proposal Title: Data Structures and Algorithms

Sponsor(s) Harold Kollmeir Dept.: Math/Computer Science Ext. 6045

Marcus Wright

Check one:  Course  Specialization  Concentration  Minor  Achievement Certificate  
 Certification Program  Major Program  Minor Change  Removal of the "Assembly Language" Prerequisite  
(please name deletion or credit/title/catalog change)

Undergraduate  Graduate 3 Credit Hours

### Step 1 (Department)

Approved 11-15-89  
Date

Not Approved

H. Kollmeir  
Dept. CC Chairperson

reviewed \_\_\_\_\_  
Date

M. Wright  
Dept. Chairperson

### Step 2 (Receipt)

SCC# 89-90-12

Proposal Received 11/17/89  
Date

Linda Ross  
SCC Chairperson

### Step 3 (School CC)

Reviewed 12/2/89

Approved  
 Not Approved

Comments:

Charles W. Schultz  
School Curr Comm Chairperson

### Step 4 (Academic Dean)

Comments:

Recommend  
 Not Recommend  
 Conditionally Recommend (see comments)

Reviewed 2-7-90  
Date

M. Dockson  
Signature, Dean of School

### Step 5 (SCC)

Open Hearing \_\_\_\_\_  Approved by Senate Curriculum Committee \_\_\_\_\_  
Date Date

Returned to sponsor(s) for the following reasons:

### Step 6 (Senate)

Presented to Senate \_\_\_\_\_  Approved  Not Approved  
Date

Notification to Executive Vice-President/Provost 2/26/90  
Date Signature, SCC Chairperson

**Step 7 (Executive V.P./Provost)**

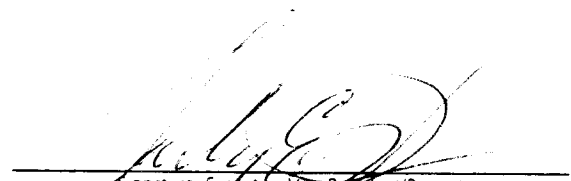
Received 3/1/90  
Date

Approved  Yes  No

If no, reasons are as follows:

Student credit hours NA  
Faculty load hours NA  
Equalized credit hours NA } **PREREQUISITE CHANGE**

Official copy and approval sheet filed \_\_\_\_\_  
Date

  
\_\_\_\_\_  
Signature, Executive Vice President/Provost

**Registrar**

Approved course description received 25 July 90  
Date

Hegis Taxonomy and Course Number assigned N/A

B. F. Celsky for DB  
Signature, Registrar

25 July 90  
Date

**Notification forwarded:**

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

# Curricular Proposal: Removal of the "Assembly Language" Prerequisite for "Data Structures and Algorithms"

Submitted by the Mathematics and Computer Science Department,  
November 9, 1989

**Proposal:** Currently, the course Data Structures and Algorithms (0407.222) has three prerequisites: Discrete Mathematics (1703.150); Structured Programming in Pascal (0704.103); and Assembly Language Programming (0704.204). We propose to eliminate Assembly Language Programming from the prerequisites for this course.

**Rationale:** The evolution of the teaching of Data Structures in Computer Science programs all over the country has been in the direction of greater abstraction. This means that detailed knowledge of "machine level" programming, as taught in Assembly Language Programming, has become of little importance to the subject matter of Data Structures. Furthermore, since the material in Data Structures follows quite closely behind the material covered in Structured Programming, the current requirement puts the student at a disadvantage, since the sequence Structured Programming -- Assembly Language -- Data Structures forces the student to wait at least a semester between the two courses. In the standard Computer Science curriculum promulgated by the Association for Computing Machinery (ACM), the primary professional organization for Computer Science, the course we refer to as Structured Programming is called CS1; Data Structures is CS2. According to the "Recommended Curriculum for CS2, 1984,":

In CS2, students will build and expand on the material they learned in CS1.<sup>1</sup>

We note further that the ACM curriculum suggests CS1 and discrete mathematics as prerequisites for CS2, but does not mention Assembly Language Programming.

An additional advantage to the proposed change will be the improved accessibility to Data Structures by non-majors. Currently, MIS students take Structured Programming and Assembly Language; only occasionally do they continue to Data Structures. In fact, Data Structures, with its emphasis on software engineering and program design, will be a much more useful course for those in the MIS major, as well as students from other programs with an interest in Computer Science.

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<sup>1</sup>Koffman, Elliot B., David Stemple, and Caroline E. Wardle, "Recommended Curriculum for CS2, 1984," *Communications of the ACM*, 28(8), August 1985.