

Rowan University
Computer Science Department

Proposal: Two Minor Changes to the Computer Science Prerequisites

1. Details

a. Changes Requested

We request approval for the following two minor changes to the Computer Science course prerequisites.

first Change the prerequisites for CS 04.222 Data Structures and Algorithms

From

MATH 03.160 Discrete Structures and CS 04.114 Object-Oriented Programming and Data Abstraction

To

MATH 03.160 Discrete Structures and C- or better in CS 04.114 Object-Oriented Programming and Data Abstraction

second Change the prerequisites for CS 07.210 Foundations of Computer Science

From

MATH 03.160 Discrete Structures, CS 04.114 Object-Oriented Programming and Data Abstraction, and CS 04.222 Data Structures and Algorithms

To

One of CS 01.102 Introduction to Programming, CS 01.104 Introduction to Scientific Programming, CS 04.103 Computer Science and Programming, or CS 04.113 Introduction to Object-Oriented Programming; and C- or better in MATH 03.160 Discrete Structures

b. Sponsor

Stephen J. Hartley, Chair, and members of the Computer Science Department Curriculum Committee.

2. Rationale

a. Need for the Changes

During several spring and fall 2007 faculty meetings, the Computer Science department faculty discussed at great length the prerequisites for CS 04.222 Data Structures and Algorithms and CS 07.210 Foundations of Computer Science. The issues at hand are

- ensuring adequate student preparation for taking these courses, and
- facilitating the progression of students as quickly as possible through the sequence of courses comprising the computer science major.

For CS 04.222 Data Structures and Algorithms the department decided that enforcing the C- minimum grade graduation requirement of the computer science major for CS 04.114 Object-Oriented Programming and Data Abstraction as a part of the prerequisite for CS 04.222 Data Structures and Algorithms would improve student preparation and performance.

For CS 07.210 Foundations of Computer Science the department decided that CS 04.222 Data Structures and Algorithms does not need to be a prerequisite because CS 07.210 Foundations of Computer Science is more a theoretical and less a programming course.

For the same reason, the department decided to replace the CS 04.114 Object-Oriented Programming and Data Abstraction prerequisite with passing any programming course, specifically one of CS 01.102 Introduction to Programming, CS 01.104 Introduction to Scientific Programming, CS 04.103 Computer Science and Programming, or CS 04.113 Introduction to Object-Oriented Programming.

The department also decided that enforcing the C- minimum grade graduation requirement of the computer science major for MATH 03.160 Discrete Structures as a part of the prerequisite for CS 07.210 Foundations of Computer Science would improve student preparation and performance.

b. Curricular Effect

The department predicts these changes will

- improve student preparation for taking CS 04.222 Data Structures and Algorithms and
- speed up the progression of students through the sequence of courses comprising the computer science major by removing CS 04.222 Data Structures and Algorithms as prerequisite for CS 07.210 Foundations of Computer Science and loosening its programming course prerequisite.

3. Results of Consultation

We solicited letters of consultation from Management Information Systems, Mathematics, and Electrical/Computer Engineering. Received letters are attached.

From hartley Wed Jan 30 13:06:04 2008

To: czochor@rowan.edu, hamilton@rowan.edu, schmalzel@rowan.edu

Subject: letters of consultation for two curriculum proposals

Here are two Computer Science curriculum proposals for the spring 2008 cycle. We are asking for letters of consultation.

<http://elvis.rowan.edu/~hartley/Curriculum/200802/updatePrereqsFoundDSA.pdf>

<http://elvis.rowan.edu/~hartley/Curriculum/200802/updatePrereqsCminus.pdf>

If you are not the correct person to ask, please forward this request to the proper person.

Thanks for your help.

Steve Hartley

From hamilton@rowan.edu Thu Jan 31 09:41:53 2008
Date: Thu, 31 Jan 2008 09:37:02 -0500
From: "Hamilton, Diane" <hamilton@rowan.edu>
To: Stephen J. Hartley <hartley@elvis.rowan.edu>
Subject: RE: letters of consultation for two curriculum proposals

Hi Steve,

The MIS faculty is in unanimous support for your two curriculum proposals. Thank you for sharing this information with us.

Diane Hamilton
Professor of MIS

MEMORANDUM

TO: Stephen Hartley
Department of Computer Science

FROM: Hieu Nguyen, Chair
Department of Mathematics

DATE: January 31, 2008

SUBJECT: Re: Consultation for proposed changes to prerequisites
for CS courses

The Department of Mathematics supports the two proposals put forth by Computer Science to change its course prerequisites, in particular those that require Discrete Structures (Math 03.160). Requiring CS students to earn at least a grade of C- in Discrete Structures will certainly strengthen their preparation for both upper-level CS and math courses. The Math Department already requires its own students to earn at least a C- in all math courses and so it welcomes this minimum grade requirement. For those students taking Discrete Math (Math 03.150) as a substitute for Discrete Structures, it is hoped the same minimum grade of C- will also be required.

MEMORANDUM

DATE: 2/25/2007

TO: Steve Hartley, Computer Science (CS) Department

FROM: Linda Head, Electrical and Computer Engineering (ECE)

RE: Consult for:

Proposal: Two Minor Changes to the Computer Science Prerequisites
and

Proposal: Minor Change to the Computer Science Prerequisites

The Electrical and Computer Engineering program is pleased to endorse the Computer Science curriculum proposals mentioned above. These changes will impact Electrical and Computer Engineering students pursuing the Minor in Computer Science. The pre-requisite changes requiring minimum grades of C- are very much in line with our own requirements for major courses in ECE. It is reasonable to expect ECE students taking advanced CS courses toward the CS minor to have mastered the pre-requisites at the C- or better level.