

Rowan University  
Computer Science Department

## **Proposal: New Specialization added to the Computer Science Specializations**

### **1. Details**

#### **a. Change Requested**

We request approval for the following change to the Computer Science Specializations requirements: adding a new specialization in Graphics and Visualization.

The courses to be part of this specialization are the following.

1701.210 Linear Algebra  
0704.222 Data Structures and Algorithms  
0707.360 Computer Graphics  
0707.370 Introduction to Information Visualization  
0707.380 Introduction to Computer Animation

The latter two are new courses being proposed in separate proposals.

Four or more courses will need to be taken by a student to meet the Graphics and Visualization specialization requirements, consistent with the other specialization requirements.

#### **b. Sponsor**

Adrian Rusu and the Computer Science Department Curriculum Committee.

### **2. Rationale**

#### **a. Need for the Change**

The two courses being proposed in separate proposals, Introduction to Information Visualization and Introduction to Computer Animation, together with the existing Computer Graphics course, do not fit naturally into any existing specialization. Therefore, we are proposing a new specialization. This new specialization will allow students interested in pursuing careers or advanced degrees in Computer Graphics or Visualization to develop the necessary expertise.

#### **b. Curricular Effect**

This change will enhance the attractiveness of the specializations to computer science majors. Students will not need to take extra courses in order to fulfill the specialization requirements. In the new specialization, Introduction to Computer Animation, Computer Graphics, and Introduction to Information Visualization are Computer Science restrictive elective courses. As part of their degree, Computer Science students are required to take four Computer Science restrictive elective courses.

A student wishing to satisfy the new Graphics and Visualization specialization will take Linear Algebra (required course) in the freshman year, take Data Structures and Algorithms (required course) in the sophomore year, and in fall of junior year and fall of senior year take two courses from Computer Graphics, Introduction to Computer Animation, and Introduction to Information Visualization. These courses are offered alternatively every fall semester. A transfer student also can satisfy the requirements of the specialization since, by the time of transfer, the student already has taken Linear Algebra and Data Structures and Algorithms.

### c. Adequacy of Resources

The current computers and software available in the open labs and computer science advanced lab are adequate to carry out this specialization at the present time. However it is fully expected that the equipment will need to be regularly upgraded to support this specialization, as well as all of the courses in our major. Thus it is, of course, necessary that a reasonable replacement cycle be maintained.

### d. Recommended Library Resources

The new specialization being proposed includes two new courses, 0707.370 Introduction to Information Visualization and 0707.380 Introduction to Computer Animation. Recommended library resources are discussed in those new course proposals.

Copies of the completed Library Resource forms for Introduction to Information Visualization and Introduction to Computer Animation are attached for reference and in lieu of a Library Resource form for this new specialization proposal.

## 3. Results of Consultation

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

```
From hamilton@rowan.edu Sun Feb 6 15:26:05 2005
Date: Sun, 06 Feb 2005 15:25:57 -0500
From: "Diane Hamilton" <hamilton@rowan.edu>
To: <hartley@elvis.rowan.edu>
Subject: Re: Request for consultation: new specialization proposal
Status: RO
Content-Length: 379
```

Hi Steve,

The MIS faculty are happy to support your new specialization in graphics and animation as well as the two new courses - Information Visualization and Computer Animation.

- - - - -

Diane Hamilton, Ph.D.  
Professor of MIS

revised May 13, 2005

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856-256-4760 (phone)  
856-256-4439 (fax)

From Czochor@rowan.edu Fri Feb 4 12:16:09 2005  
Date: Fri, 04 Feb 2005 12:16:01 -0500  
From: "Ronald Czochor" <Czochor@rowan.edu>  
To: <hartley@elvis.rowan.edu>  
Subject: Re: minor change curriculum proposal

Steve,

The Math Department has no comment on the proposed additions to your department's specialization.

Ron Czochor, Chairman  
Mathematics Department  
Rowan University  
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