MEMORANDUM

To: Dr. Marshall Jones, Chair
   Undergraduate Curriculum Committee
Through: Dr. Ed Kalajian, Associate Dean, College of Engineering
         College of Engineering Academic Council
From: Dr. William Sheaif, Department Head, Computer Sciences
Re: Adding a New Course to the Curriculum
Date: April 5, 2012

I am writing to request a new course, CSE 4234 Web Programming be added to the undergraduate curriculum in Computer Sciences. Attached find a form for adding a new course to the curriculum and a syllabus for the course.

Thank you for your attention to this matter.

William O Sheaif
Florida Institute of Technology

ADDING A NEW COURSE TO THE CURRICULUM

This course is available for student registration only after the approval process has been completed.

<table>
<thead>
<tr>
<th>SUBJECT</th>
<th>C S E</th>
<th>COURSE NO.*</th>
<th>CREDIT HOURS</th>
<th>TERM TO BE ADDED TO THE FILE</th>
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<tr>
<td>(e.g., CSE)</td>
<td>4 2 3 4</td>
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<td>Spring 2013 (e.g., Fall 2010)</td>
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*Justify level if 1000-level+ and no co- or prerequisites.

CLASS HOURS 45/semester  | LECTURE HOURS 45/semester  | LAB HOURS 0  | CONTACT HOURS (CEU ONLY)  |

DEPARTMENT Computer Sciences  | SCHEDULE TYPE Lecture (A)  |  |  |

(e.g., Computer Sciences)  | (e.g., Lecture, Lab or Special Topics/Project)  |  |  |

☐ COLLEGE OF AERONAUTICS — 23  □ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS — 25
☐ NATHAN M. BISK COLLEGE OF BUSINESS — 24  □ COLLEGE OF SCIENCE — 26
☒ COLLEGE OF ENGINEERING — 1  □ EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS — 90

COMPUTER TITLE Restricted to 25 characters, including spaces  Web Applications  Dual-Prefix B-Level Full-Load  ☑ Yes  ☐ No

CATALOG TITLE  Web Applications

CATALOG DESCRIPTION OF COURSE  Restricted to 350 characters, including spaces

Covers design and implementation of programs that offer services over the Web. Addresses Web-related standards and trends, browser compatibility, Web-related security and authentication, architectures, multimedia support and accessibility. Introduces multiple technologies (HTTP, SMTP, HTML, CSS, XML, JavaScript, PHP, JSP, applets, servleets).

This description has been approved by the catalog office.

Catalog Director  Date  4/17/12

In addition, please attach a course syllabus and/or more detailed description.

RESTRICTIONS  ☒ Prerequisite  CSE 1002  ☐ Corequisite  Course Number
☐ and ☒ or
GRADES TO BE ISSUED  ☒ A, B, C, D, F  ☐ A, B, C, D, F, CEU/Audit
☐ and ☐ or
☐ CEU  ☐ S, U
☐ and ☐ or
☐ P, F  ☐ Other

ADDITIONAL RESTRICTION  
(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT Alpha Prefix (e.g., CSE)  COURSE NO. (e.g., 1361)  TERM TO INACTIVATE

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Originator  Date  4/17/2012

Chair, Graduate Council  Date

Department/Head/Program Chair  Date  4/19/2012

Dean of Associate Dean  Date  5-9-12

Chair, Undergraduate Curriculum Committee  Date

CATALOG DIRECTOR  

These changes/additions have been made for the University Catalog/Policy management system and entered into the BANNER term named above.

Catalog Director  Date

REGISTRAR’S USE ONLY

SCACRSE  SCADEL  SCAPREQ  SCARBASE
SCARRES  Operator Init.  Date

Florida Institute of Technology • Office of the Registrar

150 West University Boulevard, Melbourne, FL 32901-6975 • (321) 674-8114 • Fax (321) 674-7827
CSE 4234 WEB PROGRAMMING
Catalog Description: (3 credits) Covers design and implementation of programs that offer services over the Web. Addresses Web-related standards and trends, browser compatibility, Web-related security and authentication, architectures, multimedia support and accessibility. Introduces various Web technologies (HTTP, SMTP, HTML, CSS, XML, JavaScript, PHP, JSP, applets, servelets).
Prerequisites:
- CSE 1002 Fundamentals of Software Development 2
- ECE 2552 Software/Hardware Integration
Prerequisites by Topic: Programming experience


Course Outcomes:
1. Understand the advantages and limitations of the web platform for applications.
2. Understand the trade-offs of alternative architectures for web application.
3. Locate web-related standards. Read, use and explain such standards.
4. Be aware of browser compatibility issues, and how to deal with them.
5. Understand security issues at the basis of standards and best practices.
6. Understand and use correctly technologies for authentication of users and servers.
7. Understand the light-clients vs. heavy-clients design and trade-offs.
8. Experience with the development of web applications employing multimedia.
9. Know how to design for accessibility.

Topics Covered:
1. Advantages and drawbacks of the Web platform for applications.
2. Common architectures for web applications.
3. Web-related standards and technologies.
4. HTTP, CGI, HTML, JavaScript, CSS, XML, PHP, Applets, Servelets, Java Server Pages, Flash
5. Introduction to accessory technologies: Databases, SMTP and IMAP.
6. Connecting various technologies.
7. Internationalization
8. Browser compatibility issues and their evolution.
9. Security on the client side
10. Security on the server side
11. Authentication
12. Light clients
13. Accessibility

Format and Teaching Methods
Lectures, projects, assignments, quizzes, exercises.

Examinations:
Projects: 50%
Topic Presentation: 10%
Assignments: 25%
Quizzes: 10%
Class questions: 5%

Prepared By: Marius C. Silaghi, Ph.D., Assistant Professor, Computer Sciences
Course Outcomes

Course Number – Course Name
CSE 4234 Web Programming

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Program Outcomes
1. Ability to apply knowledge of mathematics, science, computing and engineering to complex systems.
2. Ability to identify computing and engineering problems, design and conduct experiments,...
3. An understanding of professional, ethical, legal, security, and social issues and responsibilities
4. The broad education necessary to understand the impact of computing and engineering solutions in global and societal context
5. A recognition of the need for, and an ability to engage in continuing professional development
6. A knowledge of historical contemporary issues
7. Ability to function on multi-disciplinary teams
8. Ability to communicate effectively
9. An ability to design, implement and evaluate a computer-based system, process, component to meet desired needs with realistic constraints
10. Ability to use the techniques, skills, and engineering tools for engineering practice
11. An ability to work in one or more significant application domains
MEMORANDUM

To: Dr. Marshall Jones, Chair
Undergraduate Curriculum Committee

Through: Dr. Ed Kalajian, Associate Dean, College of Engineering
College of Engineering Academic Council

From: Dr. William Shoaff, Department Head, Computer Sciences

Re: Adding a New Course to the Curriculum

Date: April 17, 2012

I am writing to request a new course, CSE 4285 Game Design be added to the undergraduate curriculum in Computer Sciences. Attached find a form for adding a new course to the curriculum and a syllabus for the course.

Thank you for your attention to this matter.

William O. Shoaff
This course is available for student registration only after the approval process has been completed.

SUBJECT    C      S      E    COURSE NO.*  4  2  8  5    CREDIT HOURS  3    TERM TO BE ADDED TO THE FILE  Spring 2013

*Justify level if 1000 level and no co- or prerequisites

CLASS HOURS 45/semester  LECTURE HOURS 45/semester  LAB HOURS  CONTACT HOURS (CEU ONLY)

DEPARTMENT  Computer Sciences  (e.g., Computer Sciences)

SCHEDULE TYPE  Lecture (A)  (e.g., Lecture, Lab or Special Topics/Project)

□ COLLEGE OF AERONAUTICS – 23  □ COLLEGE OF PSYCHOLOGY AND LIBERAL ARTS – 25
□ NATHAN M. BISK COLLEGE OF BUSINESS – 24  □ COLLEGE OF SCIENCE – 26
□ COLLEGE OF ENGINEERING – 1  □ EXTENDED STUDIES DIVISION / NATHAN M. BISK COLLEGE OF BUSINESS – 90

COMPUTER TITLE  Restricted to 25 characters, including spaces  Game Design

CATALOG TITLE  Game Design

CATALOG DESCRIPTION OF COURSE  Restricted to 350 characters, including spaces

Focuses on the design of video and computer games. Covers the history and business of video and computer games, game design principles and mechanics, audio and visual design, game architecture, collision detection and resolution, and artificial intelligence.

This description has been approved by the catalog office  Catalog Director  Date

In addition, please attach a course syllabus and/or more detailed description.

RESTRICTIONS  □ Prerequisite  CSE 2010

GRADE TO BE ISSUED

□ and □ or

A, B, C, D, F

X A, B, C, D, F, CEU/Audit

CEU

S, U

P, F

Other

ADDITIONAL RESTRICTION

(e.g., Major, Class Level, Department Head Approval)

If this course replaces a course currently offered in BANNER, please indicate old course information and the date/term the course may be removed from the system.

SUBJECT  Alpha Prefix (e.g., CSE)  COURSE NO.  (e.g., 1301)  TERM TO INACTIVATE

APPROVALS: Upon completion of appropriate department approvals, submit form to Chair, Graduate Council, or Chair, Undergraduate Curriculum Committee for approval below and forward to Catalog Director.

Originator  Date  Chair, Graduate Council  Date

Department Head/Program Chair  Date

Dean or Associate Dean  Date

Chair, Undergraduate Curriculum Committee  Date

CATALOG DIRECTOR

Those changes/additions have been made for the University Catalog/policy management system and entered into the BANNER term named above.

Catalog Director  Date

REGISTRAR'S USE ONLY

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SCARRES  Operator Init.  Date

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RGR-1211001
CSE 4285 – Game Design

Catalog Description: (3 credits):
Focuses on the design of computer and video games. Covers the history and business of video and computer games, game design principles and mechanics, audio and visual design, game architecture, collision detection and resolution, and artificial intelligence.

Prerequisites:
CSE 2010 Algorithms and Data Structures

Prerequisites by topic:
Programming experience with data structures


Course Outcomes:
1. Familiarity with the history of video and computer games.
2. Familiarity with the video and computer game industry.
3. Understand and be able to apply game design principles and mechanics.
4. Understand and be able to apply audio and visual design techniques.
5. Familiarity with typical software game architectures.
6. Understand and demonstrate algorithmic techniques for collision detection and resolution.
7. Understand and demonstrate artificial intelligence techniques applicable to video and computer games.
8. Familiarity with game engines, modeling tools, languages, and development environments.

Topics Covered: (total time = 45 hours)
1. Video and Computer Game History 2 hours
2. Business of Computer Games 3 hours
3. Game Design Principles and Mechanics 8 hours
4. Audio Design 3 hours
5. Visual Design 6 hours
6. Game Architecture 4 hours
7. Collision Detection 4 hours
8. Collision Resolution 4 hours
9. Artificial Intelligence Techniques 5 hours
10. In class exams, quizzes and presentations 6 hours

Format and Teaching Methods:
Lectures, projects, assignments, quizzes, exams.

Grading:
Individual homework assignments - 25%
Group project - 25%
Quizzes - 25%
Final exam - 25%

Prepared By: Philip J. Bernhard, Ph.D., Associate Professor, Computer Sciences