**CURRICULAR PROPOSAL COVER SHEET**

**Course Proposal (Non-General Education)**

(Note: This form must be printed on *blue* paper when submitted for approval.)

|  |  |
| --- | --- |
| **Department:** Mathematics and Computer Science  Contact Name: Dan Bennett  Contact Phone: 732-1177  Email Address: dbennett@edinboro.edu | |
| **Revision of an Existing Course**  Existing Course Prefix & Number: CSCI 485  Existing Course Title: Senior Project in Game Development  If changed:    New Course Prefix & Number:    New Course Title: Capstone Project in Game Development    New Title Abbreviation (20 character limit): Cap. Proj. Game Dev. | Attach both existing and revised\* versions and an updated Bibliography\* If no old version exists please explain.  Revision of (check all that apply):  Catalog Course Description Course Outline  Prerequisite(s)  Credit Hours  Course Objectives  Assessment  Bibliography (updated Bibliography required)  \* PLEASE NOTE: A course outline and bibliography are *not* required for courses without specific content. |
| **New Course**  Course Prefix & Number:  Course Title:  Title Abbreviation (20 character limit):  Credit Hours: | Attach Catalog Course Description, Course Outline, Course Objectives and Assessments, and Bibliography\*  Does this course replace an existing course?    No  Yes    If yes, specify course:  \* PLEASE NOTE: Special topics courses must go through the curriculum process as a **New Course** |

Grading Scheme

Standard Letter Grades

S/U

Has this course been previously approved for distance education and/or ITV delivery or are you submitting this course at this time for distance education and/or ITV delivery?

No  Yes

*If yes, please check the delivery method (check all that apply)*

100% on-line web delivery

80-99% on-line web delivery

ITV

1. Briefly explain the rationale for the course/revision including how it will improve the quality of the program:

*The changes to this course are to allow more in-depth study of game development and are needed to allow for the Game Track’s reorganization and for possible accreditation.*

2. Course is (check all that apply):

Requirement for major

Elective for major

Requirement for minor

Designed for non‑major

3. Is this course required in or does it affect degree programs in any other department(s)?

No  Yes

*If yes, list the department(s) and the degree program(s), and attach documentation of consultation with each department (e.g., e-mail from Department Chair):*

4. Does the course share subject matter with any other department(s)?

No Yes

*If yes, list department(s) and attach documentation of consultation with each department (e.g., e-mail from Department Chair):*

5. Do you currently have qualified faculty to teach the course?

No  Yes

6. Anticipated frequency of offering (i.e., number of sections per semester, year, etc.):

*This course is currently offered every spring semester.*

7. Method of instruction (e.g., lecture, seminar, lab, studio):

*Lecture*

8. Prerequisites:

*CSCI340, STAT300, ENGL203 and CSCI408 or CSCI440.*

*Must have earned a “C-” or better in all prerequisite course(s).*

9. Are there needs, equipment, new library holdings or other resources involving budgetary considerations?

No  Yes

*If yes, list specific needs and cost estimates:*

10. Identify the Academic Level for the course.

Developmental/Remedial Course 050

Introductory/Foundation UG Course 110

Intermediate/Foundation UG Course 120

Intermediate/Advanced UG Course 130

Advance UG Course 140

Introductory GR Course 150

Intermediate GR Course (open to UG) 220

Advanced GR Course (open to GR) 230

*These levels are based on PASSHE policy. See UWCC Web page for definitions.*

Dean’s Office Use Only: **Assigned CIP Code:**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Approval Process:**

Department: Department Vote Count: Yes\_20\_ No \_\_0\_\_ Abstain \_\_0\_\_

Department Vote Date: 3/3/20 – 3/6/20

|  |  |  |
| --- | --- | --- |
|  | **SIGNATURE** | **DATE** |
| Department Chairperson |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Dean |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Graduate Dean (if appropriate) |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Provost |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Courses Subcommittee  (if appropriate) |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Gen. Ed. Subcommittee  (if appropriate) |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Program Subcommittee  (if appropriate) |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Curriculum Committee |  | \_\_\_\_\_\_\_\_\_\_\_ |
| Vice President/Provost |  | \_\_\_\_\_\_\_\_\_\_\_ |
| President |  | \_\_\_\_\_\_\_\_\_\_\_ |

FOR REGISTRAR'S OFFICE USE ONLY

**Master Course Data**

|  |  |  |  |
| --- | --- | --- | --- |
| Course Identifier: \_\_\_\_\_\_\_\_\_\_\_ | | Course Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Credits: \_\_\_\_\_\_\_\_\_\_\_\_ | Level:\_\_\_\_\_\_\_\_\_ | | Date Added:\_\_\_\_\_\_\_\_\_\_\_\_ |
| Load Hours: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | V‑Load: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Majors Only: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Permission Only: \_\_\_\_\_\_\_\_\_\_\_\_\_ | |
| Lab Course: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | Prerequisite Required: \_\_\_\_\_\_\_\_\_\_\_\_ | |
| Computer Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | New or Revised Course: \_\_\_\_\_\_\_\_\_\_\_\_ | |
| Replaces this existing course:\_\_\_\_\_\_\_\_\_ | | Last Action:\_\_\_\_\_\_\_\_\_\_ | |
| New course can be repeated for what course(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | |

EDINBORO UNIVERSITY OF PENNSYLVANIA

Department of Mathematics and Computer Science

Capstone Project in Game Development

CSCI 485 3 Credit Hours

Catalog Description:

This capstone course is designed to allow students to integrate the design, development and implementation concepts addressed within the game development curriculum into a functional software system. Students will work in groups to design and implement a computer game contemporary software development practices. Prerequisite: CSCI340, STAT300, ENGL203 and CSCI408 or CSCI440. Must have earned a “C-” or better in all prerequisite course(s).

Course Outline

1. Game Design
   1. Game Mechanics
   2. Game Story
   3. Game Aesthetics
   4. Game Technology
2. Game Implementation
   1. Game world creation/integration
   2. Character creation/integration
   3. Non-interactive sequence creation/integration
   4. Sound creation/integration
   5. Dialog creation/integration
   6. AI creation/integration
   7. Game object creation/integration
   8. User Interface creation/integration
   9. Data storage and organization

Course Objectives:

|  |  |  |
| --- | --- | --- |
| **Objectives** | **Assessments** |  |
| 1. Students explain the legal and or security issues and responsibilities involved in video game development. | 1. Students will research a legal or security issue involved with video games and or their development and write a report on their findings. | Exams, quizzes, homework, presentations, essays, class participation, or projects. |
| 1. Students produce readable and understandable documents. | 1. Students will prepare a document reflecting their experiences with respect to the game developed. | Exams, quizzes, homework, presentations, essays, class participation, or projects. |
| 1. Students, as members of a group, implement significant parts of a game system. | 1. Students will implement the static and dynamic assets, the user interface, the required data structures and the necessary AI to achieve intelligent non-player characters. | Exams, quizzes, homework, presentations, essays, class participation, or projects. |
| 1. Students design, compose, and effectively deliver professional presentations. | 1. Students will formally present their project proposals. 2. Students will critique other students’ presentations. | Exams, quizzes, homework, presentations, essays, class participation, or projects. |

**BIBLIOGRAPHY**

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Dragonov, Dimitar, Freemium Mobile Games: Design & Monetization, CreateSPace Independent Publishing Platform, 2014

Dreskin, Joel, A Practical Guide to Indie Game Marketing, Focal Press, 2015

El-Nasr, Magy Seif, Anders Drachen, and Alessandro Canossa, Game Analytics: Maximizing the Value of Player Data, Springer, 2013

Fields, Tim, Mobile & Social Game Design: Monetization Methods and Mechanics, 2nd ed., CRC Press, 2014

Hill-Whittall, Richard, The Indie Game Developer Handbook, Focal Press, 2015

Levy, Luis & Jeannie Novak, Game Development Essentials: Game QA & Testing, Course Technology, 2009

Marolf, Gerald, Advergaming and In-Game Advertising: An Approach to the next Generation of Advertising, AVAkademikerverlag, 2012

Spaulding, Seth II, Team Leadership in the Game Industry, Course Technology, 2008

Zackariasson, Peter and Mikolaj Dymek, Video Game MarketingL A student textbook, Routledge, 2016

EDINBORO UNIVERSITY OF PENNSYLVANIA

Department of Mathematics and Computer Science

Senior Project in Game Development

CSCI 485 3 Credit Hours

Catalog Description:

This capstone course is designed to allow students to integrate the design, development and implementation concepts addressed within the game development curriculum into a functional software system. Students will work in groups to conceptualize a computer game, generate the design to include both technical and creative aspects, and begin implementation. Prerequisite: CSCI 440, MATH 300 and ART 348. Must have earned a “C” or better in all prerequisite course(s).

Course Outline

I. Game Conceptualization

II. Technical Design

III. Creative Design

IV. Building a prototype

V. Testing the prototype

VI. Identifying deliverables

VII. Marketing the product

Course Objectives:

At the conclusion of the course, the student should be able to:

1. Understand the various roles of the team members involved in the development of a computer game

2. Document the major development phases involved in the production of a computer game

3. Develop a simple marketing plan

4. Recognize the differences in the technical and creative design of a computer game

5. Apply a variety of tools to assist in the development of a computer game

Course Assessments:

Assessment of objectives will be done through the creation, implementation and documentation of a computer game.

**BIBLIOGRAPHY**

Adams, Ernest & Andrew Rollings. Fundamentals of Game Design. Prentice Hall, 2006.

Astle, Dave. Beginning Opengl Game Programming. Course Technology, 2006.

Bateman, Chris & Richard Boon. 21st Century Game Design. Charles River Media, 2005.

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Finney, Kenneth. Advanced 3D Game Programming All In One, Second Edition. Course Technology, 2008.

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Salen, Katie & Eric Zimmerman. The Game Design Reader: A Rules of Play Anthology. MIT Press, 2005.

Sherrod, Allen. Ultimate Game Programming With DirectX. Charles River Media, 2006.

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Yuzwa, Erik. Game Programming in C++: Start to Finish. Charles River Media, 2006.

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