RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE

CISY 290 – Advanced Game Design and Development

I. Basic Course Information

A. Course number and Title: CISY 290 – Advanced Game Design and Development

B. New or Modified Course: Modified

C. Date of Proposal: Semester: Fall   Year 2016

D. Effective Term: Fall 2017

E. Sponsoring Department Computer Science

F. Semester Credit Hours: 3

G. Weekly Contact Hours: Lecture __2__
                                    Lab __2__
                                    Out of class student work per week: __6__

H. Prerequisites: CISY 267 Programming for Game Developers

I. Laboratory Fees: Yes

J. Name and Telephone Number or E-Mail Address of Department Chair at time of approval: Steven Schwarz, steven.schwarz@raritanval.edu

II. Catalog Description

(Prerequisites: CISY 267 Programming for Game Developers;) This course serves as the capstone for game development and game art production. It allows the students to demonstrate the skills involved in game production, visual design and programming. In this course the student teams will take a game concept that has been previously play tested and prototyped and turn it into a complete digital game including: performance tuned gameplay, functional UI, game load/save system, art and sound design, appropriate models, textures, animations, shaders, lighting and level design. The final product is a team produced game produced under the current best practices of agile game production worthy of inclusion in the student's demo reel.

III. Statement of Course Need

A. Students wishing to enter the fields of game design/development need to work on teams where everyone is contributing their best to the overall design. This course gives the artists and the programmers the opportunity to work together in order to create a working computer game. Additionally, students will be required to implement agile project management practices and to experience the need to make intelligent decisions on what to cut from the original vision in order to deliver a game to an immutable deadline.

B. Lab is necessary for the students to prototype and sketch, integrate ideas into their implementation to provide a consistent physical space for the management of the project status over the semester.

C. This course may transfer to as elective credit or technical elective credit at a number of institutions, or as meeting a game project requirement at institutions with a game design degree program. It does not transfer to all institutions.

IV. Place of Course in College Curriculum

A. Free Elective
B. This course meets a program requirement for
    a. Game Development AAS
    b. Game Art production AAS (proposed)
C. Graphic Design Elective
D. CIS Elective on the Computer Science CISY Electives List
E. Programming Elective on the Computer Science CISY Electives List
F. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, www.njtransfer.org; b) for all other colleges and universities, go to the individual websites.

V. Outline of Course Content

This course explores the following topics:

A. Agile project management practices in the game industry
B. Developing software for nebulous and shifting goals
C. Visual and auditory concept development
D. Technical design documentation and pipeline process development
E. Produce art and sound design approval process
F. Production plans using agile methodologies
G. Team Management
H. Integrating Professionally Designed Graphics with Game Code
I. Game Design/Development Job Search
J. Understanding all of the stakeholders in the game development process

VI. Educational Goals and Learning Outcomes

    A. <u>**General Education Learning Outcomes:**</u>

        After completion of this course, the student will be able to:

1. Build communication skills (effective writing and speaking) through collaborative learning, utilizing team projects. (GE-NJ 1)
2. Utilize industry standard software and traditional media to develop a technologically mediated entertainment application (GE-NJ2)

    B. <u>**Course Learning Outcomes:**</u>

        At the conclusion of the course, students will be able to:

1. Implement an agile project work plan including user stories, task breakdown, sprint planning and sprint retrospectives
2. Define project pipeline processes for smooth integration of art assets from concept through final approval
3. Create a complete post project asset/install bundle for a game including a post-mortem report
4. Identify several approaches for maximizing a job search.

    C. <u>**Assessment Instruments:**</u>

1. laboratory products
2. art work
3. demonstrations
4. journals
5. portfolios
6. computer programs

VII. Grade Determinants

    A. Game Project Management – Students will manage and document different facets of the game design/development process.

    B. Team participation - The student will continually update their teammates and the executive producer (professor) of their work on the project through weekly project meetings.

C. Game software – Artists and programmers will work together to create a professional video/computer game.

Given the goals and outcomes described above, LIST the primary formats, modes, and methods for teaching and learning that may be used in the course:

    A. lecture/discussion
    B. small-group work
    C. guest speakers
    D. laboratory
    E. student oral presentations
    F. simulation/role playing
    G. student collaboration
    H. independent study

VIII. Texts and Materials

Suggested Textbooks

    A. Gibson-Bond, Jeremy, Introduction to Game Design, Prototyping, and Development: From Concept to Playable Game with Unity and C#, Addison-Wesley Professional 2014
    B. Schell, Jesse, The Art of Game Design – A book of Lenses, Second edition, Schell Games 2014

(Please Note: The course outline is intended only as a guide to course content and resources. Do not purchase textbooks based on this outline. The RVCC Bookstore is the sole resource for the most up-to-date information about textbooks.)

IX. Resources

A. Computer Lab for classroom instruction and exercises
    a. Production studio environment where students can leave project concepts and management boards up on the wall
B. Technology Support
    a. A continuously updated license of game engine of instruction
    b. An appropriate programming IDE for the game engine of instruction
    c. Adobe Creative Cloud or CS6
    d. Desktop application for git/SCM