

**RARITAN VALLEY COMMUNITY COLLEGE  
ACADEMIC COURSE OUTLINE**

**CISY 106 – Fundamentals of Game Design**

**I. Basic Course Information**

- A. Course Number and Title: **CISY 106 – Fundamentals of Game Design**
- B. New or Modified Course: **Modified**
- C. Date of Proposal: Semester: **FALL** Year: **2017**
- D. Effective Term: Fall 2018**
- E. Sponsoring Department: **Computer Science**
- F. Semester Credit Hours: **3**
- G. Weekly Contact Hours: **4** Lecture: **2**  
Laboratory: **2**  
Out of class student work per week: **5**
- H. Prerequisites/Corequisites: **None**
- I. Laboratory Fees: **Yes**
- J. Name and Telephone Number or E-Mail Address of Department Chair and Divisional Dean at time of approval: Steven Schwarz – [steven.schwarz@raritanval.edu](mailto:steven.schwarz@raritanval.edu) (Chair), Sarah Imbriglio – [Sarah.Imbriglio@raritanval.edu](mailto:Sarah.Imbriglio@raritanval.edu) (Divisional Dean)

**II. Catalog Description**

This course introduces the creative process of game design and development for students hoping to enter the game industry. The student will learn about the structure of the game industry and develop the foundational skills required of a professional game designer. In this course students will learn a formal method of analyzing analog and digital games. Topics covered include identifying formal and dynamic elements of games, diagramming structures of existing games, creating new game systems, writing a game rule set and planning for the conversion from an analog to digital game.

### **III. Statement of Course Need**

- A. Students wishing to become professional game designers need to understand how to objectively analyze existing games to identify the design choices and systems chosen by the game's creators. This can only be accomplished by developing the student's understanding of the iterative process.
- B. This course has a lab component to allow students to: develop broader game literacy, to implement the team based iterative process of game systems development, and to create the rule sets, game components and planning documents needed to present a formal game design.
- C. This course generally transfers as a game design or game development program requirement or a computer science program elective.

### **IV. Place of Course in College Curriculum**

- A. Free Elective
- B. This course meets a program requirement for
  - 1. Game Development A.A.S. Degree
- C. This course is a specialization elective in
  - 1. Multimedia Communications, Certificate
- D. This course serves as a CIS Elective on the Computer Science (CISY) Elective List
- E. To see course transferability: a) for New Jersey schools, go to the NJ Transfer website, [www.njtransfer.org](http://www.njtransfer.org); b) for all other colleges and universities, go to the individual websites.

### **V. Outline of Course Content**

- A. The Game Industry
  - 1. Understanding the game industry
    - a. Platforms
    - b. Genres
    - c. Publishers and developers
    - d. jobs within the industry
- B. The role of the game designer
  - 1. Required skills
  - 2. Design process
- C. Structured method for game analysis
  - 1. Formal elements of games
  - 2. Dramatic elements of games
  - 3. Systemic elements of games
  - 4. Building game literacy
    - a. Analyzing analog games
      - i. mechanics
      - ii. art and layout
      - iii. rules and procedures
    - b. Analyzing digital games

- i. screen flow
  - ii. user interface layout
  - iii. game mechanics
  - iv. art style
  - v. audio cues
- D. Creating a game
  - 1. Developing ideas
  - 2. Building Prototypes
    - a. Analog prototypes
    - b. Digital prototypes
  - 3. Playtesting
    - a. conducting tests
    - b. recording results
    - c. iterating on design
  - 4. Writing rules documents
  - 5. Producing “pitch worthy” game components
  - 6. Working in an Agile development team
- E. Developing a digital game plan
  - 1. Market analysis
  - 2. Legal analysis
  - 3. Game play overview
    - a. Controls
    - b. User interfaces
    - c. Screen flow
    - d. Models
    - e. Level designs
  - 4. Character design
  - 5. World design
  - 6. Media asset list
    - a. Interface
    - b. Environment
    - c. Characters
    - d. Audio
    - e. Animations

## **VI. General Education and Course Learning Outcomes**

### **A. General Education Learning Outcomes:**

- 1. Produce a written process log of their game production project (GE-NJ 1, 4)
- 2. Analyze and critique analog and digital games (GE-NJ 4, \*)

\* Embedded critical thinking

### **B. Course Learning Outcomes:**

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

1. Identify and explain the market forces, platforms, genres, and careers in the game industry
2. Create a high-fidelity, multiplayer analog game rule-set and prototype using an iterative, play-centric design process
3. Create a preliminary design plan to implement the analog game as a digital game
4. Explain and defend their system design to game industry professionals

### **C. Assessment Instruments**

1. laboratory products – (ie game design and components)
2. research papers – (ie. Interface, control or screen flow analysis)
3. demonstrations – (ie examination of their game in play)
4. essays
5. journals – (ie. record of their game design process)
6. portfolios – (ie. archive of changes in the components)
7. computer programs
8. presentations
9. interviews (ie one on one or group discussions)

## **VII. Grade Determinants**

- A. Homework - The student will complete homework assignments throughout the semester to develop their understanding of the formal language of game analysis and of games as systems.
- B. Game Analysis – Students will create a paper detailing their analysis of several popular board, card and video games.
- C. Game Project – Students will conceptualize and prototype a game using an iterative design process. The game will serve as the basis for planning the implementation of the game as a digital game.

Students will produce:

1. Technical writing – Rule Set
2. Game Prototype
3. Digital conversion design document

- D. Presentation – The student will present their game design to professionals from the game industry

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. computer-assisted instruction
- D. guest speakers
- E. laboratory
- F. student oral presentations
- G. simulation/role playing
- H. student collaboration
- I. independent study

### **VIII. Texts and Materials**

- A. suggested textbook - Fullerton, Tracy, Game Design Workshop, A Playcentric Approach to Creating Innovative Games, Taylor & Francis, 2008.
- B. primary sources – Common video game for analysis and discussion such as Plants Vs. Zombies
- C. audio sources – game industry podcasts such as The DialogBox via Soundcloud.com
- D. web sources –
  - 1. Safari computer books database via RVCC library
  - 2. Game Developers Conference Vault
  - 3. GameIndustry.biz
  - 4. Gamasutra.com
- E. Design Notebook
  - 1. Small moleskine pocket notebook or similar

(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. Classroom with Prototyping materials and space for crafting components and playtesting
  - 1. Wood and plastic blocks
  - 2. Glass beads
  - 3. Meeples
  - 4. Polyhedral dice
  - 5. Paper
  - 6. Card stock
  - 7. index cards
  - 8. playing cards
  - 9. 8.5” x 11” Avery labels
  - 10. Paper cutter
- B. Computer Lab with Microsoft Office (Word, Excel, PowerPoint) and access to the Internet

- C. Adobe Creative Suite
- D. Large format printer rolls, ink and poster printer
- E. GameMaker Studio, Construct or other 2D game engine
- F. Unity 3D, Unreal engine or other 3D game engine
- G. iPad and Android tablets
- H. Board & card game collection
- I. Video game consoles and software collection
- J. Hand held game consoles and software collection
- K. Subscription to Steam software portal for college

**X. Honors Option**

n/a