

**RARITAN VALLEY COMMUNITY COLLEGE
ACADEMIC COURSE OUTLINE**

**CISY208 – INTERFACE DESIGN & HUMAN COMPUTER
INTERACTION**

I. Basic Course Information

- A. Course Number and Title: CISY208 Interface Design & Human Computer Interaction
- B. New or Modified Course: Modified
- C. Date of Proposal: Semester: Spring Year: 2017
- D. Effective Term: Fall 2017**
- E. Sponsoring Department: Computer Science (CS)
- F. Semester Credit Hours: 3
- G. Weekly Contact Hours: 4 Lecture: 2
Laboratory: 2
Out of class student work per week: 4
- H. Prerequisites/Corequisites: **Prerequisite:** A grade of C or higher in CISY114 Interactive Multimedia I
Corequisite: Interactive Digital Media Programming Requirement.¹
- I. Laboratory Fees: Yes, at current rate.
- 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

1 One of: CISY233 Introduction to PHP, CISY242 Object Oriented Programming, CISY244 JavaScript, CISY249 Java, CISY265 Introduction to C#.NET, CISY267 Programming for Game Developers, or other suitable programming course determined by the professor.

Prerequisites: A grade of C or better in CISY114 – Interactive Multimedia I; Corequisite: Interactive Digital Media Programming Requirement.² This course equips students to understand the theory behind and develop practical experience in implementing user interfaces for electronic, multimedia-driven devices.

III. Statement of Course Need

- A. Computer systems are now a ubiquitous part of everyday life, and how we interact with and through them shapes how we perceive, communicate, and interact with our colleagues, family, and friends, as well as how efficiently we carry out all of our digital tasks. As a result, a deep understanding of the psychology of and best practices behind designing these interfaces (a field commonly referred to as “User Experience” or “UX”) has become increasingly important at virtually every point of human-computer contact.
- B. This course requires the use of a Computer Lab to both learn the software necessary to create user interface assets, as well as to assemble practical user interface projects.
- C. Transferability of Course: This course could transfer as a free elective or as a Computer Science elective.

IV. Place of Course in College Curriculum

- A. This course meets a program requirement for the Interactive Digital Media A.A.S. and Game Development A.A.S.
- B. CISY Elective
- C. Free Elective
- D. 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

- A. Introduction to the concepts of User Interfaces (UI), and User Experience (UX).
 - i. Field background.
 - ii. Understanding UI and UX terminology.
 - iii. Visual design principles.
 - 1. Contrast
 - 2. Repetition
 - 3. Alignment
 - 4. Proximity & Grouping
- B. Focused user psychology.

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- i. Psychological “reflexes.”
 - ii. Catching, holding, and manipulating attention.
 - iii. Mental vs conceptual models.
 - iv. Actionable cues and affordances.
 - v. Preventing & diffusing frustration.
 - vi. Planning, and anticipation.
- C. Navigation & input paradigms.
 - i. Linear, hierarchical, combination, etc.
 - ii. Navigation elements (buttons, text areas, etc.)
 - iii. Differences between desktop, mobile, and unconventional platforms.
 - iv. Point-and-click vs. tap-and-gesture
 - v. Using camera, accelerometer, and gyroscope inputs.
 - vi. Other new inputs as discovered.
- D. Coherent narrative and structured expression of ideas.
 - i. Grouping ideas into categories.
 - ii. Organizing and associating categories meaningfully.
 - iii. Providing narrative to link ideas together and provide logical flow.
- E. Design documentation conventions.
 - i. Style guides
 - ii. Font sheets
 - iii. Color swatches
 - iv. Wireframes & block diagrams
- F. User personas.
 - i. User-focused research
 - ii. Applied role-playing
 - iii. Determining audience-based design considerations
- G. Iterative Design process.
 - i. Planning and costing
 - 1. Brainstorming
 - 2. Scheduling and time estimates
 - ii. Designing & Producing
 - 1. Sketching
 - 2. Proof-of-concept
 - 3. Prototyping
 - 4. Increasing fidelity over iterations
 - iii. Testing
 - 1. Developer testing
 - 2. User testing
 - 3. Focused improvements
 - iv. Delivering
 - 1. Publication materials (branding, “box art” etc.)
 - 2. Delivery systems (App store, Steam, etc.)
 - 3. Maintenance
 - 4. Iterative updates

VI. General Education and Course Learning Outcomes

A. General Education Learning Outcomes:

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

1. Apply creativity to problem solving; decision making; and quantitative reasoning (GE-NJ2)
2. Build communication skills (effective writing and speaking) through collaborative learning, utilizing team projects and multi-tasking. (GE-NJ1)

B. Course Learning Outcomes:

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

1. Understand UI, and UX theories;
2. Identify the strengths and weaknesses of interfaces and have a basis for improving upon them;
3. Design interfaces to accommodate a wide range of users and skill levels;
4. Understand the Iterative Design process;
5. Create appropriately descriptive design documentation;
6. Prepare and carry out usability testing;
7. Apply practical design methodology to develop an interface prototype;
8. Tell a coherent, interactive story and/or expression of ideas with digital tools.

C. Assessment Instruments

1. Computer lab assignments
2. Quizzes
3. Midterm examinations
4. Final examination

VII. Grade Determinants

- A. Attendance & participation
- B. Lab projects
- C. Homework assignments
- D. Quizzes
- E. Midterm exam
- F. Final exam
- G. Final project**

The 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 textbooks:
 - “The Design of Everyday Things” by Donald A. Norman (latest edition)
 - “Don’t Make Me Think: Revisited” by Steve Krug (latest edition)
 - “100 Things Every Designer Needs to Know About People” by Susan Weinschenk (latest edition)
 - “About Face: The Essentials of Interaction Design” by Alan Cooper et al. (latest edition)

(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 with overhead projection
- B. Modern web browser software (Chrome)
- C. Microsoft Office Suite
- D. Adobe Suite
- E. Unity or other engine determined by the professor