

**RARITAN VALLEY COMMUNITY COLLEGE  
ACADEMIC COURSE OUTLINE**

**CISY-211 Systems Development & Implementation**

**I. Basic Course Information**

- A. Course Prefix and Title: CISY-211 Systems Development & Implementation
- B. New or Modified Course: Modified
- C. Date of Proposal: Semester: Fall Year 2016
- D. Effective Term: Fall 2017
- E. Sponsoring Department: Computer Science Department
- F. Semester Credit Hours: 3
- G. Weekly Contact Hours: Lecture: 2  
Laboratory: 2  
Out of class student work per week: 6
- H. Prerequisites: CISY 132 Systems Analysis & Design and a programming language
- 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](mailto:steven.schwarz@raritanval.edu)

**II. Catalog Description**

(Prerequisites: CISY 132 Systems Analysis & Design and a programming language)  
This course is a continuation of the Systems Analysis and Design course which focuses on the Development and Implementation process for Information Systems. State-of-the-art design techniques are emphasized. Students produce a usable system with input methods, storage in relational database, and queries and reports for output. System implementation, documentation, integration and maintenance methodologies are explored.

**III. Statement of Course Need**

- A. This course is designed to be a capstone course for Computer Programming majors. Computer Professionals must be able to develop and implement information systems and deal with the complexities of readying the system for production. This course completes the Software Development Life Cycle for the student.

- B. This course has a weekly lab component. The lab is essential for providing students hands on experience for creating and using relational databases as data stores for an information system.
- C. As a capstone course this course is not intended for transfer.

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

- A. Free Elective
- B. This course meets a program requirement for:
  - i. Computer Programming Certificate
  - ii. Management Information Systems Option In Business Administration AS
  - iii. Computer Networking AAS
  - iv. Computer Programming AAS
- C. CIS Elective on the Computer Science Cisy Electives List
- D. 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. Design Considerations
  - i. Structured and Object Oriented System design
  - ii. System design & development documentation.
  - iii. Quality Assurance Techniques
  - iv. Overview of Human Computer Interaction
- B. Input
  - i. Overview of Coding Schemes and Check Digits
  - ii. Design of paper forms for input
  - iii. Design of input forms for data entry
- C. Output
  - i. Design of queries and reports for output.
- D. Databases
  - i. Design of relational databases to hold information
  - ii. Normalization of relational databases
  - iii. Implementation of relational database
  - iv. Implementation of input forms, queries and reports for relational databases
- E. Implementation of Systems
  - i. Disaster Avoidance and Recovery
  - ii. Systems integration
  - iii. System Documentation
  - iv. System maintenance
- F. User training and documentation.

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

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

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

1. Apply quantitative reasoning to design, develop and implement an information system that solves the problem of a need for a system by an organization (NJ-GE 2)

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

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

1. Discuss the major concepts of systems development and implementation including development and processing considerations, implementation planning and database design
2. Describe the Internet client/server architecture needed to support systems development and implementation
3. Generate relational databases in using appropriate tables, forms and reports
4. Design and develop the tools needed in systems development such as data flow diagrams, data dictionaries, network diagrams, and test plans
5. Create and test a system using the tools developed throughout the course

### **C. Assessment Instruments:**

1. Labs
2. Projects
3. Homework
4. Exams
5. Final Exam and or Final Project

## **VII. Grade Determinants**

- A. Labs
- B. Projects
- C. Homework
- D. Exams
- E. Final Project

Modes of Teaching and Learning

- A. Lecture
- B. Laboratory Time for group and individual work

## **VIII. Texts and Materials**

**Textbook:** *Kendall, Kenneth and Kendall, Julie, Systems Analysis and Design, Ninth Edition, Prentice Hall, 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
- B. Technology Support
  - a. Either a local relational database such as Microsoft Access or a server relational database such as MySQL, SQL Server, or Oracle
  - b. A tool to create input forms for a relational database and to create queries and reports