

RARITAN VALLEY COMMUNITY COLLEGE ACADEMIC COURSE OUTLINE

CSIT 296H Computer Science Capstone Research Honors

I. Basic Course Information

- A. Course Number and Title: Computer Science Capstone Research Honors
CSIT 296H
- B. New or Modified Course: Modified
- C. Date of Proposal: Semester: Fall Year: 2024
- D. Effective Term: Fall 2025**
- E. Sponsoring Department: Mathematics and Computer Science
- F. Semester Credit Hours: 3
- G. Weekly Contact Hours: Lecture: 0
Laboratory: 0
Out of class student work per week: 9
- H. ☒ Prerequisite (s): Student must be enrolled in his or her last Honors College academic year before graduation
☐ Corequisite (s):
- I. Additional Fees: none

II. Catalog Description

Prerequisite: Student must be enrolled in his or her last Honors College academic year before graduation

The course is intended to guide sophomore Honors College students from all disciplines through the stages of conducting a semester-long research project in Computer Science. Topics include the design and development of a computer application and/or the use of computer technology. Research into what others have written about similar computer applications and/or technology is part of the design process. The course includes the writing of a report which addresses design and development process including any issues

and how they were overcome as well as a report of the research. Class will include research training, developing a timeline, as well as independent study of research.

III. Statement of Course Need

- A. Research on the value on intensive undergraduate research experiences abounds, and requiring enrollment in this research capstone will provide RVCC Honors College students with: a strong student-faculty collaboration and scholarship; an original research to the discipline; an understanding of intensive research in preparation for classes in the major or for more intensive graduate school research; and a high profile project that will aid in transfer applications.

Class will consist of five major components: library instruction, research and guidance with faculty member, group discussions on topics and progress, the final written project, and a formal presentation.

- B. This course has no lab component
- C. This course is not designed for transfer, yet dependent on transfer institution may transfer as a Computer Science program elective.

IV. Place of Course in College Curriculum

- A. Free Elective
- B. This course does not meet a General Education requirement
- C. This course meets a program requirement for the Honors College
- D. Computer Elective on the Computer and Programming Electives List
- E. 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

Class will consist of the following major components

- A. Information literacy instruction to support research in Computer Science
- B. Advanced Computer Science topic exploration
- C. Literature research utilizing discipline-specific information sources, databases, interlibrary loan, etc.
- D. Background research and discussion of the capstone topic with capstone Computer Science faculty advisor to create a timeline of completion
- E. Develop methods to understand and analyze the Computer Science research topic
- F. Application of Computer Science research topic and results to relevant situations
- G. Research and guidance with capstone Computer Science faculty advisor via weekly consultations to discuss results, assess progress and adjust timeline as needed.

- H. The final Computer Science capstone project
- I. A formal capstone presentation (Capstone Day).

VI.

A. Course Learning Outcomes:

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

1. Logically and persuasively state and support orally and in writing their findings from the research or creative project (GE 1*)
2. Evaluate relevance and authority of information (GE-IL)
3. Create and revise drafts to address capstone objectives and employ standard appropriate editing practices for the specified discipline (GE 1)
4. Use discipline-specific information sources and/or databases to better understand the research topic and find existing research in the field. (GE-IL)
5. Complete a research project or develop a product that incorporates newly acquired and prior information and is delivered in a medium appropriate to the discipline and intended audience. (GE-IL, GE 1)
6. Cite sources, compile a bibliography, and make consistent and correct use of a citation style appropriate to the discipline (GE-IL)
7. Explain and present all aspects of their Computer Science capstone project

C. Assessment Instruments

1. Research process
2. Final capstone product
3. Capstone project presentation

VII. Grade Determinants

- A. research process
- B. completion of agreed upon timeline deadlines
- C. revisions of drafts
- D. final capstone product oral presentation

Given the goals and outcomes described above, 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 and lectures
- E. student oral presentations
- F. student-faculty collaboration
- G. independent study and research

VIII. Texts and Materials

Any texts and materials will be dependent upon individual capstone project requirements.

IX. Resources

- A. Databases
- B. Archives
- C. Subject matter experts
- D. Additional hardware/software might be acquired through a budget request process

X. Check One: ☒ **Honors Course** ☐ **Honors Options** ☐ **N/A**