CREDITS AND CONTACT HOURS: Credit Hours: 2/1, Contact Hours: 28/14

INSTRUCTOR:
Dr. Andrew Watkins

TEXTBOOKS: No required material
  a. Supplemental Material: Relevant documents and document templates are provided by the instructor

SPECIFIC COURSE INFORMATION:
CSC 490
  a. Catalog Description: During this course, students work on the research project defined in the pre-requisite Senior Research Proposal course. Students will conduct their research, making presentations along the way to obtain valuable feedback from the instructor and fellow students. Progress on the project will be sufficient to enable completion of the research, writing of a thesis and presentation of the work in the subsequent course.
  b. Prerequisites: Permission of Instructor
  c. Required/Elective: Computer Science – Required

CSC 491X
  a. Catalog Description: This course focuses on completion of the research project defined in the pre-requisite Senior Research Proposal course and developed in the pre-requisite course. Students will continue to conduct their research, making presentations along the way to obtain valuable feedback from the instructor and fellow students. Successful completion of the course will require completion of the research, writing of a thesis on the work, and presentation of the completed project.
  b. Prerequisites: Permission of Instructor
  c. Required/Elective: Computer Science – Required

SPECIFIC GOALS OF THE COURSE:
  a. Specific Outcomes of Instruction:
    1. Clearly articulate research goals and progress
    2. Produce a substantial document that meets current standards in research documentation and explication
    3. Demonstrate an ability to analyze and interpret data
    4. Discuss the relationship between current work and the wider field of computer science
    5. Demonstrate growing expertise in research area
6. Manage the time-constraints of executing a year-long research project including coordinating with research supervisor and possibly others working within similar areas
7. Discuss the relationship between project and the ethical standards of computer science
8. Produce a document that reflects upon the research experience in terms of personal and professional growth

b. CAC Criterion 3 Outcomes Addressed by this course:
   a. An ability to apply knowledge of computing and mathematics appropriate to the program’s student outcomes and to the discipline
   c. An ability to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
   d. An ability to function effectively on teams to accomplish a common goal
   e. An understanding of professional, ethical, legal, security and social issues and responsibilities
   f. An ability to communicate effectively with a range of audiences
   g. An ability to analyze the local and global impact of computing on individuals, organizations, and society
   h. Recognition of the need for and an ability to engage in continuing professional development
   i. An ability to use current techniques, skills, and tools necessary for computing practice.

TOPICS COVERED:
1. Experimental design
2. Scientific documentation
3. Data analysis
4. Scientific communication techniques
5. Various computing/technology topics as they arise per each student’s chosen work
6. Ethical issues as apply to student’s chosen work
7. Presentations