Computer Science CSC 391
Senior Research Proposal

CREDITS AND CONTACT HOURS: Credit Hours: 1 Contact Hours: 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:
  a. Catalog Description: This class will focus on the identification of a problem and the preparation of a research proposal for the required Senior Research Project. Students will work individually or in teams under the guidance of the faculty member to formally define the hypothesis for their research project and perform related background research. A formal proposal for a research project will be developed and presented by semester’s end.
  b. Prerequisites: CSC 291 and three CSC credits at the 300- or 400-level OR permission of the instructor
  c. Required/Elective: Computer Science – Required

SPECIFIC GOALS OF THE COURSE:
  a. Specific Outcomes of Instruction:
     1. To continue developing skills as a researcher
     2. To develop a research plan for a year-long research effort
     3. To develop background knowledge around a specific topic in computer science
     4. To develop a research question and explain methods for addressing this question
     5. To develop a research proposal document
     6. To develop presentation skills
  b. CAC Criterion 3 Outcomes Addressed by this course:
     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
     j. An ability to apply mathematical foundations, algorithmic principles, and computer science theory in the modeling and design of computer-based systems in a way that demonstrates comprehension of the tradeoffs involved in design choices.
TOPICS COVERED:
1. Narrowing a thesis topic
2. Preliminary thesis prospectus
3. Overview of thesis format
4. Literature review
5. Background
6. Research question
7. Research methods
8. Developing preliminary results
9. Presenting and defending proposed research