Fall 2017: CIS 485 - Directed Research in CIS (3 Credits)

M 3:10-5:00, W 3:10-4:00. SN 227.

Instructor

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Office Hours: MW 1-3, WF 9-10, or by appointment

Course Description

From the Catalog – Design and development of a project in some area of computer and information sciences. Each student enrolling in this course must select a computer and information sciences faculty advisor who will be responsible for approving, guiding, and evaluating the project. Prerequisites: Consent of instructor.

Mandated Goals/Learning Outcomes

- LEAP goal – Intellectual and practical skills throughout the curriculum.
- Learning outcomes – Creative thinking, oral and written communication, problem solving, lifelong learning, ethical practice/reasoning, and experiential learning.

Specific Course Goals

This course provides the student with a capstone research experience as a part of his or her professional preparation, as well as written English training in the major area. It requires that the student formulate and conduct a project that analyzes a research topic or issue of significance in the field of computer and information sciences under the guidance of a faculty member. The research project should focus on a specific topic in CIS/CIT and should be finished in one semester. The intermediate and final research results will be discussed and presented in class. Feedbacks will be provided by the class and the instructor to improve the research process and the writing. The final deliverable is a written research report or research paper.

Tentative Plans and Schedules

- Research proposal presentations – 9/18.
- Progress presentations #1 – 10/2.
- Progress presentations #2 – 10/30.
- Progress presentations #3 – 11/27.
- Final research project presentations – 12/4.
- For detailed schedules and assignments with due dates etc., please visit
  http://webpages.shepherd.edu/zwang/485.html.

At the beginning of the semester, the student should submit to the instructor a directed research proposal, which defines the focus of the research. It includes:

1. The specific area in computer and information sciences.
2. The precise problem(s) to be addressed.
3. The sources of information, including books, papers, websites, etc.
4. The plan to solve the problem(s). Possible methodologies.
5. Expected results and verification plans.
6. The importance or implications for your research.

The directed research proposal must be presented to the class and the instructor for suggestions and approval. Once approved, the following schedule will be carried out throughout the semester:

1. Submit an outline with a list of preliminary references.
2. Read and gather information. Write literature review reports.
3. Maintain reading log and deliver weekly reports in the format as specified.
4. Write the draft report and present intermediate results to class.
5. Iteratively revise the draft report based on the feedbacks from the class and the instructor.
6. Present the final research results to the class and the instructor.
7. Submit the final report to the instructor.

Optionally, present your research results at a conference or submit a manuscript related to your project to a journal for a 20% bonus to your final grade.

Research References

No textbook is required for this course. Students will conduct research to find appropriate references to read and refer to. The instructor will provide guidance on this matter.

Evaluations

- Originality of research – 10%.
- Design of problem solving method – 20%.
- Contents, language, and presentation of the written report – 20%.
- Oral presentation – 20%.
- Class attendance and participation – 30%.

Report Format Guidelines

1. Text should be typed double-spaced with one-inch margins on each side; use a normal 10- or 12-point font; number all pages. Maximum 2 columns per page.
2. The final report should be detailed and have at least 15 pages of text, plus references, appendices, etc. The total number of pages, including the initial plan, literature review reports, drafts, and final version, should be no less than 30 pages.
3. The main body of the report should include:
   a. Abstract.
   b. Definition of the problem.
   c. Background of the problem.

        d. Method to solve the problem.
        e. Findings, analysis, and discussion.
        f. Conclusions and possible future work.
        g. References.

Federally, HEPC, and Shepherd Mandated Policies

Disability Support Services
Disability Support Services at Shepherd University believes that every student should succeed, and works closely with students to meet their needs. Students requesting any disability related accommodation should contact the Disability Coordinator at 304-876-5122. This includes students with learning disabilities needing classroom accommodations, students requesting specific housing accommodations for health-related reasons, and all other disability accommodations. Accommodations need to be documented and provided to instructors. Please see http://www.shepherd.edu/disability for more information.

Academic Integrity
Each student in this course is expected to abide by the Shepherd University Academic Integrity Procedures in the Student Handbook – http://www.shepherd.edu/conduct.

Class Attendance
You must attend your classes regularly and engage in the requirements for each class; otherwise, your financial aid may be revoked either partially or in full. This would result in an amount due by you to the University immediately. Please refer to http://www.shepherd.edu/financialaid for more details.

Shepherd and CME Suggested Policies and Information

Free tutoring scheduling. Please refer to the academic support center's website at http://www.shepherd.edu/academic-support/.

Cell Phone and Text Messaging Policy – Please turn your cell phone off or put it in the silent mode. Please talk outside of the classroom if needed. No texting please.

Students in athletics – It is your responsibility to provide a letter signed by your coach listing all of the days in which you will be absent. Accommodations will be made only if the letter is received from your coach no later than the end of the first week of class.

The instructor reserves the right to update this syllabus, but only when necessary. In this case students will be notified in a reasonable and timely fashion.