COMP490 – Capstone

Project Fall 2017

Syllabus

Course Description:

Research or software application development on some topic or problem within the discipline relating to the special interests of the student

Course Objectives:

Upon completion of this course the student should be able to:

- use current techniques, skills, and tools necessary for computing practice
- to design, implement, and evaluate a computer-based system, process, component, or program to meet desired needs
- conduct a high level research and come up with a solution
- demonstrate the ability to develop a comprehensive plan for a project
- to assist in the creation of an effective project plan
- reinforce through practice the concepts they have learned earlier in other courses
- provide a practical software development techniques that will prepare graduates to lead large software projects in industry
- develop a better plan for becoming a better systems professional or user/manager of systems, by understanding personal strengths and weaknesses and matching those with the ethical success factors of a modern business manager
- write a formal technical or professional report that organizes a systems documentation
- to present a technical material to a group

Professional Objectives

This course provides students with opportunities to enhance skills that may not be easy to accomplish in the traditional classroom setting, such as working in teams, interacting with users, developing formal problem specifications, reviewing the research journals, building prototypes, scientific writing, and making oral presentations..

Instructor : Prof. Martin Dwomoh-Tweneboah

        Office : Renshaw 209

        E-mail : mdwomoh@linfield.edu

        .

GRADING

Grading for this course will be based on the project application system developed by the student throughout the course.

ACADEMIC HONESTY

Linfield College operates under the assumption that all students are honest and ethical in the way they conduct their personal and scholastic lives. Academic work is evaluated on the assumption that the work presented is the student's own, unless designated otherwise. Anything less is unacceptable and is considered a violation of academic integrity. Furthermore, a breach of academic integrity will have concrete consequences that may include failing a particular course or even dismissal from the college, as published in the Linfield College Course Catalog.

Violations of academic integrity include but are not limited to the following:

Cheating: Using or attempting to use unauthorized sources, materials, information, or study aids in any submitted academic work.

Plagiarism: Submission of academic work that includes material copied or paraphrased from published or unpublished sources without proper documentation. This includes self-plagiarism, the submission of work created by the student for another class unless he or she receives consent from both instructors.

Fabrication: Deliberate falsification or invention of any information, data, or citation in academic work.

Facilitating Academic Dishonesty: Knowingly helping or attempting to help another to violate the college's policy on academic integrity.

DIFFICULTIES

If you find you are having problems with the class – the use of the software package, case tool, attendance, keeping up with the reading, fitting into a group, please let me know. I am always available to help you, but I have to know about the problem while it's going on and before the end of the course. The last few weeks to the end of the course is not the best time to ask for help.

STUDENTS WITH DISABILITIES

Students with disabilities are protected by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act. If you are a student with a disability and feel you may require academic accommodations please contact Learning Support Services (LSS), as early as possible to request accommodation for your disability. The timeliness of your request will allow LSS to promptly arrange the details of your support. LSS is located in Melrose Hall 020 (503-883-2562). We also encourage students to communicate with faculty about their accommodations.

Students with documented disabilities who may need accommodations for taking quizzes and tests, who have any emergency medical information I should know of, or who need special arrangements in the event of an evacuation, should make an appointment with me as early as possible, no later than the second week of the semester.

COURSE OUTLINE

In this course you will come up with a topic or application development that relates to an area that interests you. You will do the necessary research and write a paper or development an application that will enable you fulfill the objectives outlined under course objectives.

The project may be individual project or team-oriented, software engineering effort in which you will design a solution to an information-based problem and work as a team or individually to implement that solution. Another alternative format is a research experience that includes some original work, a review of the scientific literature, and an investigation of a proposed solution, followed by a scientific paper and/or an oral presentation of the results.

If you are developing an application, you should follow the following guidelines:

PROJECT OVERVIEW AND SYSTEMS REQUIREMENTS REPORT

Below is the outline of the procedures and schedule to be followed during this project. If you find any discrepancies or misconceptions, please bring them to my immediate attention.

Project Description
This section describes the history that led to this project based on the System Request you submitted.

Scope of this Project.
Analyze the project's scope to define a reasonable target and schedule.

Project Environment
Preliminary Feasibility Analysis.

Project Participants.
1.   Management - Direct Users or Managers of the System
2.   Non-Management - Direct Users of the System
3.   Other People or Departments Affected by, Interested in, or Interfacing to the System

Problems and Opportunities
List of problems and opportunities to be addressed in the project. The list is not final. In the subsequent weeks, you will modify the list and that will provide you with a detailed analysis of problems, opportunities, and solutions. At any time during this project, you should feel free to add to, subtract from, or expand upon this preliminary list.

Project Constraints
Project constraints are limitations, good or bad, that will or may constrain any solutions that I might propose. Constraints can be technical, monetary, time, or political.

Business Functions:
After studying the Systems Request, Feasibility Analysis and through the interviews with management, managers and users the detailed business functions (WHAT THE SYSTEM IS GOING TO DO), the client's perceptions of what they want or expect**.**

Data Entities and their Description
Data items as those the system owners want information stored about in the system. Following each data item is a brief description and the information to be stored. The list is not final. In the subsequent weeks this list may be modified.

Project Schedule Overview
The following overall project approach and schedule in the form of Gantt chart and/or PERT chart.

If you are going to write a paper, you should follow the following guidelines:

- **A statement about the area of investigation** generally an outline of the subject or thesis the you wish to explore and its place in a broader area of study or scholarship.

- **Problem under investigation**

- **Definition of operational terms**

- **Aim** and **Objectives of the study**

- **Justification or Rationale for pursuing the topic**

- **Significance of the study**

- **Hypotheses (or research questions)**

- **Brief Literature Review and point of departure**

- **Methodology**

- **Anticipated time framework**

- **An outline of chapters.**

    This spells out the order in which you expect to present the research. It is your anticipated chapter outline and the kinds of chapter headings that may appear in the dissertation itself. These may change just as the whole proposal may change as you do the research. What is important is for you to understand what you are doing and to make sure that whatever changes may occur do not deviate too widely from the original proposal and thesis.

- **Anticipated problems.**

    During the research and a statement of how you plan to either overcome or cope with the problems.

- **Bibliography**

- **Appendices i.e. questionnaires (optional but mandatory for field–based research)**