Course Policy

Instructors

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Course Description

This is a capstone course that ties together concepts from the information technology and computer science curriculums to solve a practical problem. These team-oriented project solutions will include the requirements gathering, analysis, design and development of a computing system involving a large, multi-layer organization using appropriate information management and computing technologies.

Credits

1-4-3

Learning Objectives

Upon completing this course, students should be able to:

1. Understand advanced concepts in the analysis, planning, design, implementation and testing of software. Supports Student Outcome (2);

2. Communicate the status of project goals and risks encountered during project development. Supports Student Outcome (3);

3. Understand a project's ethical issues from a societal perspective using the Software Engineering Code of Ethics. Supports Student Outcome (4);

4. Collaborate on a project in a team environment. Supports Student Outcome (5);

ABET Student Outcomes

- **2.** Implementation. Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline;
- **3.** Communication. An ability to communicate effectively with a range of audiences about technical information (oral);

- **4.** Ethics. An ability to make informed judgments in computing practice based on legal and ethical principles (society);
- **5.** Teamwork. An ability to function effectively on teams to establish goals, plan tasks, meet deadlines, manage risk, and produce deliverables;

Textbooks

Optional Textbooks:

- Classical and Object-Oriented Software Engineering, 8th ed. Schach, McGraw-Hill, 2011.

Prerequisites

- IC470 Software Engineering

Extra Instruction

Extra instruction (EI) is strongly encouraged and should be scheduled by email with the instructor. EI is not a substitute lecture; students should come prepared with specific questions or problems.

Collaboration

The guidance in the Honor Concept of the Brigade of Midshipmen and the Computer Science Department Honor Policy must be followed at all times. See www.usna.edu/CS/Resources/honor.php. In particular, the project in this course falls under the Team Programming Projects of the Computer Science Department Honor Policy. All collaboration and outside sources should always be cited. The same rules apply for giving and receiving assistance. If you are unsure whether a certain kind of assistance or collaboration is permitted, you should assume it is not, work individually, and seek clarification from your instructor

Course Project

The course includes an incremental, course-long, team-oriented software development project. Team members are expected to contribute their fair share of the effort expended by the team towards the software design and development of their project. Each team member will undergo anonymous peer reviews that evaluate the contributions made by the team member and which will have direct impact on team member grades. On very rare

occasions, a team may have a member that fails to fulfill his/her responsibilities towards the team project. Under such circumstances, the following **Regulations to Eject Nonfunctioning Team Members** are specified:

1. **Informal Team Discussion.** If the majority of a team determines that a member of the team is not fulfilling his/her responsibilities, they will hold a team-only meeting with a majority of the team members present, to include the non-functioning team member. At this meeting, the team must clearly convey the individual's performance shortcomings and specify what must be done to correct the situation to include a correction timeline. At least one Informal Team Discussion must be held prior to advancing to the Fair Warning Memo discussed below.

2. **Fair Warning Memo.** After an Informal Team Discussion correction timeline has elapsed, if the majority of a team determines that an individual is still not fulfilling his/her responsibilities, they will send the member a Formal Warning Memo, with a copy to all team members, as well as their customer(s) and course instructor(s). The memo must summarize the previous Informal Team Discussion(s) to include dates and specifics, give an update on the individual's performance, must be dated, and must indicate that the individual will be ejected from the team if the situation is not corrected within two weeks.

3. **Formal Ejection Memo.** After a period of two weeks, if the individual has not corrected the situation, the team will send the individual a Formal Ejection Memo detailing what the individual has failed to do since receiving the Fair Warning Memo, with a copy to all team members, as well as their customer(s) and course instructor(s). If the course coordinator approves the ejection, the individual will be responsible for completing his/her own project in its entirety or be assigned to a different team at the course coordinator's discretion.

4. **Relapse.** After a Fair Warning Memo is issued, if the individual temporarily corrects the lack of responsibility but then relapses into being a nonfunctioning team member, no additional warning memos are necessary. The team may serve the individual with a Formal Ejection Memo, as described above.

Classroom Conduct

The section leader will record attendance and bring the class to attention at the beginning and end of each class. If the instructor is late more than 10 minutes, the section leader will keep the class in place and report to the Computer Science department office. If the instructor is absent, the section leader will direct the class. Drinks are permitted, but they must be in closable containers. Food, alcohol, smoking, smokeless tobacco products, and electronic cigarettes are all prohibited. Cell phones must be silent during class.

Late Policy

The Course Syllabus publishes dates on which milestones must be delivered.

1. Missed Milestones. Except in truly unusual circumstances, such as customer illness or unexpected travel, an inability to meet with your customer prior to a milestone delivery deadline with enough lead time to get the customer's feedback is considered a planning shortfall on the part of the team and will earn a grade of zero for the milestone.

2. Teams not ready to deliver a scheduled milestone when called upon will lose ten points and be moved to the end of the period's presentation queue. Milestones not delivered during the scheduled period will earn a grade of zero but will still have to be completed in order to pass the course.

Grading

Note that all of the below are weighted by periodic Peer Evaluations conducted by your teammates during the course of the semester.

	6wk	**12wk**	**16wk**	**Final**
Development Milestones	100%	100%	50%	50%
Final Product Delivery	n/a	n/a	25%	25%
Capstone Poster Session	n/a	n/a	25%	25%