**Capstone II**

Instructor: Jie Wei

**Catalog Description:**

This is the second session of a two semester capstone course. The student is required to complete a significant project in computer science or engineering under the mentorship of a faculty member. In addition to technical material required for successful completion of a specific project, topics include identification of a problem, background research, social, ethical and economic considerations, intellectual property and patents and proposal writing, including methods of analysis and theoretical modeling. A detailed project proposal is formulated in the first semester, and the project is completed in the second semester. Each student is required to write an in-depth report, and to make an oral presentation to the faculty.

**Course Goals:**

This course intends to achieve the following goals:

1. Deeper insights into the workings of real world system specification and design.
2. Valuable hands-on experiences to conduct basic researches, developments, integration, testing and explorations as a team.
3. Better understandings of data processing and analysis in an efficient and effective manner.

Based on the specification and design formulated in the prior semester, each team revises the design based on responses from the class and the instructor to formulate a final design and starts the system implementation/integration/testing work. Each team should update the instructor on a weekly basis and make presentations to the entire class about their progress three times. Every team member should discuss his/her own part in the system during the presentations. The final system is demonstrated and discussed to the entire class for final evaluations.

**Grading items:**

* Three group presentations evaluated by the entire class: initial design (15%), finalized design and initial system prototype demo (15%), final system demo (20%)
* One individual programming exam (13%)
* Working system features and software/documentation, and individual evaluations by team members based on participations and contributions (37%)