CS 490-101: Senior Project I (CRN: 2108)
Marshall University
Fall 2007

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1 Course description

This is the first of a two-course sequence senior capstone project. The course focuses on the application of technical and professional skills in solving a real-world problem in a team environment. It also discusses professional code of conduct, societal issues, and transition from student to industry professional.

2 Course schedule

This course meets on Wednesday, 5.00 PM - 7.30 PM in GH 206A.

3 Instructor information

• This course is team taught by Prof. Fuller and Dr. Gudivada.

• Prof. J. Fuller, Gullickson Hall Room 205B, Phone: 304-696-6204, Email: fullerj@marshall.edu
  Office hours: 12.00 - 12.45 PM MWF, 8.30 - 11.30 AM TuTh, and 10.00 - 11.30 AM Friday.

• Dr. V.N. Gudivada, Gullickson Hall Room 205A, Phone: 304-696-5452, Email: gudivada@marshall.edu.
  Office hours: 12.00 Noon - 2.00 PM on MWF and 4.00 PM - 5.00 PM on MW. Other times by appointment.

4 Course topics at a glance


b. Team Building, Nurturing, and Group Dynamics.

c. Professional Communication.

d. Ethics, Social, and Environmental Responsibility.

e. Copyright Laws, Patents, Privacy Issues.

f. Freedom of Speech in the Cyberspace.

g. Entrepreneurial Skills.
5 Course objectives

a. Provide hands-on experience in project planning and management.

b. Analyze requirements, perform design, and construct large-scale software-intensive systems.

c. Apply effective teamwork strategies for successful completion of large-scale projects.

d. Apply ethics, social, and environmental awareness to software-intensive system projects.

e. Explore copyright and patent laws, privacy issues, freedom of speech in cyberspace, and entrepreneurship in the context of computing as an engineering profession.

f. Discuss the need for life-long learning and instill a desire for keeping abreast with rapidly changing computing profession.

g. Help enhance oral and written communications skills.

h. Discuss career choices and professional opportunities.

Central to these courses is the experience of working in teams in solving a real-world software-intensive problems. More specifically,

a. Students will select an industry-contributed software project and form teams of size four to six based on their selected project.

b. Student teams will follow a formal development process (e.g., Unified Process) to complete their project.

c. Students will elicit requirements, analyze, and specify them.

d. Students will design and evaluate a solution to the problem.

e. Students will produce a written final report, poster, and press release describing their project. A final oral presentation and demonstration is given to peers and industry sponsors (if applicable).
6 Student learning outcomes

A high course grade in CS 490: Senior Project I requires that the student demonstrate most or all of the following:

a. **Gained** valuable practical experience in developing a software-intensive system for a real-world application.

b. **Demonstrated** ability in project planning and project management.

c. **Demonstrated** ability in dealing with incomplete and often ill-stated system requirements.

d. **Demonstrated** ability in dealing with clients and project sponsors in a professional manner covering demeanor, presentation style, and work ethic.

e. **Demonstrated** ability in analyzing and designing a system by making judicious engineering tradeoffs.

f. **Understands** the implications of ethical, social, and environmental issues that computing professionals face at work.

g. **Understands** the implications of intellectual property disclosure, copyright violation, patent infringement, software piracy, cyber security, freedom of speech and censorship in the cyberspace to the computing professionals.

h. **Understands** the need for keeping abreast with the rapidly advancing computing profession, and is **aware** of the means for this task.

i. **Recognized** areas that need improvement in professional communication, and developed a plan for addressing them.

j. **Acquired** knowledge of potential career choices and professional opportunities.

7 Instruments for Measuring Student Learning Outcomes

Part of the course assessment related to assigning grades to students is based on the following instruments:

a. Evaluation of several written reports including problem statement; requirements specification; preliminary and detailed design using UML. Some of these materials are peer evaluated in addition to the instructor.
b. Evaluation of final presentation slides, project poster, and project press release. Evaluated by both the instructor and peers.

c. Evaluation of the formal oral presentation to the project sponsor or peers. This part is evaluated by the instructor as well as sponsor/peers.

d. One midterm exam to assess understanding of non-technical knowledge of the course: Ethics, Social, and Environmental Responsibility; Copyright Laws, Patents, Privacy Issues; Freedom of Speech in the Cyberspace; and Entrepreneurial Skills.

8 Instructional materials

Course notes and other handouts will be available on WebCT Vista. URLs for additional resources will also be listed on the Vista.

9 Course assessment and grading criteria

The course assessment is based on the following components:

• Written assignments: 70%
• Oral presentations: 30%

10 Assignment of letter grade

<table>
<thead>
<tr>
<th>Score</th>
<th>Letter Grade</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;= 90</td>
<td>A</td>
<td>Achievement of distinction</td>
</tr>
<tr>
<td>&gt;= 80 &amp; &lt; 90</td>
<td>B</td>
<td>Competent and professional work</td>
</tr>
<tr>
<td>&gt;= 70 &amp; &lt; 80</td>
<td>C</td>
<td>Below average performance</td>
</tr>
<tr>
<td>&gt;= 60 &amp; &lt; 70</td>
<td>D</td>
<td>Patently substandard work</td>
</tr>
<tr>
<td>&lt; 60</td>
<td>F</td>
<td>Unsatisfactory work</td>
</tr>
</tbody>
</table>

Note that A grades are awarded only to those students who have demonstrated distinctive performance in the course.
11 WebCT Vista

It is important to visit WebCT Vista for up-to-date information about the course. It hosts all the course materials including assignments, handouts, lecture notes, and reading materials. Also, you will use the Vista for submitting your team project.