Please type or select the requested information. Print completed forms, add appropriate paper attachments, and route through MSU’s curricular process for recommendations and decisions.

| College: | Science, Engineering and Technology |
| Department: | Computer Science |
| Program: | Computer Science |
| Type of Change: | COURSE PROPOSALS |
| Proposed: | New Course |
| Title Current: | Senior Capstone |
| Title Proposed: | Senior Capstone |
| 24-Char. Abbrev: | Senior Capstone |

Effective Date of Change: 01/01/07

Course Designator and Number: CS 490
Number of Credits: 4

Include a course or program description for the Bulletin (30-40 words maximum for courses, 100 for programs):

Students gain experience working with a team to solve a substantial problem in the field of computer science using concepts that span several topic areas in computer science. Class time focuses primarily on project design and implementation.

Pre: Senior standing and successful completion of all core requirements.

Spring

Rationale or justification for change:

This is part of the CS program redesign and is now required for CS majors.

***For General Education or Cultural Diversity Courses Only***

**General Education Course:**

<table>
<thead>
<tr>
<th>GE Category #</th>
<th>GE Category Name (Maximum of 3 Categories)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

† For Writing Intensive Courses, attach a description of the kind and quantity of writing.

‡ For Upper Division Courses, include a description of the respects in which it is broad and general rather than narrow and specific, and so suitable as GE.

Attach paper copies of the following:

a. Syllabus or course outline.
b. Course’s student learning outcomes associated with each GE competency or CD designation.
c. List of strategies to be used to assess students’ achievement of each GE competency or CD designation.

***For New Courses***

<table>
<thead>
<tr>
<th>(Check all that apply:)</th>
<th>Instructional Type: Lecture/Lab</th>
<th>Course will be offered:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Course is an elective.</td>
<td></td>
<td>Fall Semester</td>
</tr>
<tr>
<td>Course is required for program.</td>
<td>Computer Science</td>
<td>Spring Semester</td>
</tr>
<tr>
<td>Pre- or Co-requisites:</td>
<td>Senior standing and successful completion of all core req</td>
<td>Summer Session</td>
</tr>
<tr>
<td>Other courses are being changed or eliminated. (Explain.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

☐ Course content or title is similar to courses in other departments. (Attach copy of letter of agreement with other program(s) contacted. Indicate the nature of the discussions and/or resolution of differences or potential conflicts.)

Attach paper copies of the following:

a. Syllabus or course outline.
b. Course’s student learning outcomes.
c. A list of resources required to offer and support this course.
d. A description of how teaching this course will affect department staffing.
e. If 400/500 level course, an explanation of added expectations of graduate students.

Revised September 2002
### Signature Page

**Department**
- [ ] Recommended
- [ ] Not Recommended

**College Curriculum Committee**
- [ ] Recommended
- [ ] Not Recommended

**College Dean**
- [ ] Recommended
- [ ] Not Recommended

**General Education Subcommittee**
- [ ] Recommended
- [ ] Not Recommended

**Undergraduate Curriculum and Academic Policy Committee**
- [ ] Recommended
- [ ] Not Recommended

**Faculty Association Graduate Committee**
- [ ] Recommended
- [ ] Not Recommended

**Graduate Dean**
- [ ] Recommended
- [ ] Not Recommended

**Academic Affairs Council**
- [ ] Recommended
- [ ] Not Approved

**Senior Vice President and Vice President for Academic Affairs**
- [ ] Approved
- [ ] Not Approved

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**Comments:**

**Date:**
- 10/17/02
- 11/2/06
- 11/6/06
- 3/1/07
- 2/13/07

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**Revised September 2002**
CS 490: Senior Capstone

Course Description: This course provides a capstone experience for the computer science program. Students will gain experience solving a substantial problem using concepts that span several topic areas in computer science. Students must work together in teams to define the problem, develop a solution plan, produce and demonstrate an artifact that solves the problem, and present their work using written and oral reports. Class time focuses primarily on the project design and implementation, but may include lectures on the practical application of topics. Interdisciplinary projects that engage students and faculty from other departments are encouraged.

2 lecture hours per week, 3 lab hours per week

Pre-requisites: Senior standing and successful completion of all core requirements.

Proposed Text:
Texts will depend on the problem assigned for the term.

Schedule of Topics:
Topics will depend on the problem assigned for the term.

Student Outcomes:
1) Work on projects large enough to require teams of several students over a semester.
2) Apply concepts from more than one sub-area of computer science.
3) Perform background research on available problems and issues requiring investigation in computer science.
4) Engage in a substantial design effort from problem definition through final product.
5) Present work using formal oral presentations and written reports
6) Produce an interesting, working artifact.

Grades will be assigned based on project completion, written reports and oral presentations.

Required Resources & Departmental Staffing
Resources currently in place within the department, the college, and the university library will support this new course. No new resources are required.

There is no impact on staffing requirements.