

# Revision of Requirements for Software Engineering Major

## Rational for the proposal:

Based on the consultants visit on 4-10-2007, the curriculum that we had proposed and was approved on campus has shown that it has some shortcomings. The need for additional mathematics and science courses in cognates, the need for a culminating design experience for capstone, and clarification of what application domains the students will have experience in were the items that we were asked to react to. The proposed changes directly respond to the reviewers' suggestions.

## Details of the changes:

- ◆ CSC459 with 3 credits is removed from Core but will still be available as an elective in this major.
- ◆ A year-long capstone sequence with 6 total credits is added.
- ◆ Elective set is reduced to 6 credits from 15 and a 9-credit Application Domain section added.
- ◆ Calculus-Based Physics sequence (PHY112/PHY213) added to the Cognate set.
- ◆ Six additional science and mathematics requirement also added to the cognate section.
- ◆ The note on the C- minimum grade requirement for core and cognates exists in the CS-BS major and is needed in the SE major as well.

## Resource issues:

- ◆ There is an additional 3 credit requirement in Computer Science in the updated version of the Software Engineering major by removing CSC459 from the Core and adding the 6-credit capstone sequence. The department will teach the capstone sequence yearly by reducing the size of the elective in the department offerings by one course per semester.
- ◆ The introduction of an Application Domains section with 9 credits is effectively providing some specificity to the electives to ensure students have an in-depth experience in at least one application domain. There is no resource issue here as the size of the electives required is also reduced to 6 credits. The combined total of the Electives and Application Domains components of the major is still 15 credits.
- ◆ The additional science and mathematics requirement should not require any additional resources. The SE major is taking the place of the Software Systems Concentration is the current CS-BS major; that major requires 32 credits of science and mathematics. The updated SE major only requires 28 credits in science and math, still four credits less than the CS-BS did.
- ◆ Even though, the total credits in this major is changing from 56-57sh to 73-74sh, the new total is still fewer than the CS-BS major that requires 75 credits.