Introduction of BS Computer Science: Software Design Option
and minor changes to Science and Business Options

Approved by the Faculty of CS
April 19th, 2006
Approved by the NSM College Curriculum
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Pending review and approval by University Council

Current curriculum
1. Introduce COSC 3320 Algorithms and Data Structures for all options
2. Require students to take Major Field Test as part of 4211 for all options.
   Make COSC 4351 and COSC 4330 required for COSC 4211 for all options.
3. Reduce elective hours from 12 to 9 (due to introduction of 3320) for all options
4. Introduce Software Design Option
Course descriptions for new courses (and updated 4211)

COSC 4211: Computer Scientists & Society Cr. 2. (2-0).
Pre-requisite: COSC 4330 and successful completion of the university core curriculum. Introduction and discussion of issues of professional responsibility and ethics related to the use of computer technology in complex modern working environments. Emphasis on specific cases, on group discussion, and on oral presentations and written reports by students. Emphasis and evaluation on Technical Writing is included. Major Field Test is a required component of the course.

COSC3351: Software Design Cr. 3. (3-0).
Prerequisite: COSC3320. Object-oriented paradigm, classes, object relationship, software architecture, use-case analysis, object modeling technique, design metrics, software development patterns, practices, and principles. A group project may be required.

COSC4352: Software Development Practices Cr. 3. (3-0).
Prerequisite: COSC 3351 and COSC 4351. Pragmatics of software development, hands-on iterative, incremental, and agile software development team project with emphasis on use of state of the art tools, techniques, principle and better practices. May include invited lectures from outside speakers.

COSC3319: Web Development Cr. 3. (3-0).
Prerequisite: COSC3380. Introduction to DHTML, CSS, CGI, JavaScript, Server side programming paradigm, XML and transformation, Web Services, Service Oriented Architecture.

COSC4353: Advances in Software Development Cr. 3. (3-0).
Prerequisite: COSC 2320. COSC 3380 completed or concurrently enrolled. Selected special topics related to current trend in Software Development area. This will involve introducing students to new technology in the broad area of software development. A group project may be required.

COSC3320: Algorithms and Data Structures Cr. 3. (3-0).
Prerequisite: COSC 2320. Data structures and algorithms for manipulating them. Algorithm analysis and design, heuristics; advanced tree structures; advanced hashing techniques; sorting and searching; graphs, and sets. introduction to NP-Completeness, Time and space complexities.