

# SOFTWARE ENGINEERING, SKILLS COMPETENCY AWARD (SCA)

## Overview

The Software Engineering Skills Competency Award goes beyond programming to include engineering methodologies and hands-on project experience. The program introduces students to state-of-the-art methodologies, teamwork and project management skills.

## Requirements

### Skills Competency Award Requirements

Complete all Major Requirements with a "C" or higher or "P" in each course. Candidates for a Skills Competency Award are required to complete at least 20% of the major requirements through SBCC.

| Code                                             | Title                                  | Units              |
|--------------------------------------------------|----------------------------------------|--------------------|
| <b>Major Requirements</b>                        |                                        |                    |
| Required Core                                    |                                        |                    |
| CS 105                                           | Programming Methodology                | 3                  |
| CS 106                                           | Data Structures and Algorithms         | 3                  |
| CS 165                                           | Software Design Patterns               | 1.5                |
| CS 180                                           | Software Engineering With UML          | 3                  |
| List A - Complete one course from the following: |                                        | 1.5-4              |
| CS 107                                           | Computer Architecture and Organization |                    |
| CS 108                                           | Discrete Structures                    |                    |
| CS 111                                           | HTML And Webmastering                  |                    |
| CS 115                                           | Javascript Programming                 |                    |
| CS 116                                           | Web Server Programming                 |                    |
| CS 123                                           | Android Programming                    |                    |
| CS 140                                           | Object-Oriented Programming Using C++  |                    |
| CS 187                                           | iOS Programming                        |                    |
| <b>Total Units</b>                               |                                        | <b>12.00-14.50</b> |

## Learning Outcomes

1. Design and implement programming solutions to complex problems.
2. Develop software that can perform standard operations on data stored in the standard data structures.
3. Develop software that implements designs that incorporate standard design patterns.
4. Employ analytical methods to estimate the duration and cost of a software development project.
5. Use code versioning systems to manage changes to a code base.
6. Work in a team environment to implement project goals.