**ABET Course Syllabus – CS3337**

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| **Code** | CS3337 | **Credits** | 3 |
| **Title** | Software Engineering | **Coordinator** | Jiang Guo |

**Course Information**

1. **Catalog Description:** Methodologies and tools for requirements analysis and design of large complex software system; process models, project planning, tracking, documentation, communication, and quality assurance; group laboratory project; oral and written presentations. Graded ABC/NC.
2. **Prerequisites:** CS 2013; Prerequisite or Corequisite: ENGL2030.
3. **Contact Hours:** Lecture 2 hours, laboratory 3 hours.
4. **Required/Elective:** This course is required in the BS program.

**Textbook**

Software Engineering , Ian Sommerville Addison Wesley.

**Course Goals**

The Student Learning Outcomes that are addressed by the course are:

* SLO #5. Students will have the training to analyze problems and identify and define the computing requirements appropriate to their solutions.
* SLO #6. Students will have the training to design, implement, and evaluate large software systems working both individually and collaboratively.
* SLO #7. Students will be able to communicate effectively orally and in writing.

Other outcomes of instruction:

At the end of the course, students are able to

* Estimate the cost and effort for software projects
* Make schedules for software projects
* Elicit the software requirements
* Create data model, flow-oriented model and behavior model
* Convert the requirement models into software architectures
* Implement component-level design

**Topics Covered**

* Estimation for Software Project
* Software Project Scheduling
* Software Process
* Requirement Engineering
* Analysis Modeling
* Design Engineering
* Architecture Design
* Software Project Management Tools, such as Microsoft Project
* Software Requirement Tools, such as Workspace
* Software Version Control Tools, such as SVN
* Software Design Tools, such as Visual Studio and Eclipse
* Software metrics
* Software reuse
* Earned value analysis
* Software reliability
* COCOMO model