Department Of Computer Science and Engineering
Kathmandu University
Dhulikhel, Kavre

Subject: Software Engineering   **Course: COMP 401**

Level: B.E./B.Sc 4ᵗʰ Year 1ˢᵗ Semester   **Credit Hours: 3**

Course Objective: The main goal of this course is to give the knowledge of software engineering and its application in real life for software development. It is concerned with theories, methods, and tools which are needed to develop computer software.

Syllabus

Chapter 1. Introduction (4 hrs)
  1.1 Software, software engineering
  1.2 Comparison between hardware and software engineering
  1.3 Importance of software engineering

Chapter 2. Software Process model (7 hrs)
  2.1 Introduction to software process model
  2.2 Types of software process model
  2.3 Agile development
  2.4. XP, IXP, and Scrum

Chapter 3. System Engineering (4 hrs)
  3.1 Introduction to system
  3.2 System and its environment
  3.3 System engineering process

Chapter 4. Requirement Engineering (6 hrs)
  4.1 Introduction to requirement engineering
  4.2 Requirement engineering process
  4.3 Requirement Validation
  4.4 Requirement Evolution
  4.5 Requirement Analysis

Chapter 5. Project Management (7 hrs)
  5.1 Introduction to project management
  5.2 Management activities
  5.3 Project planning
  5.4 Activity organization
  5.5 Project scheduling

Chapter 6. Software Project Planning (7 hrs)
       6.1 Introduction to project planning
       6.2 Resources
       6.3 Software project estimation
       6.4 Decomposition techniques
       6.5 Empirical estimation models

Chapter 7. Software Quality Assurance (3 hrs)
       7.1 Introduction to software quality
       7.2 Software quality assurance
       7.3 Software reviews

Chapter 8. Software Testing Techniques (7 hrs)
       8.1 Introduction to software testing
       8.2 Types of software testing

References:
Software Engineering-*Sommerville Ian*
Software Engineering, A Practitioner's Approach-*Pressman Roger S*