Liverpool John Moores University

Title: SOFTWARE & PROJECT MANAGEMENT
Status: Definitive
Code: **6003SUMCOM** (103344)
Version Start Date: 01-08-2011

Owning School/Faculty: Computing and Mathematical Sciences
Teaching School/Faculty: Computing and Mathematical Sciences

Team	emplid	Leader
Andrew Laws		Y

Academic Level:	FHEQ6	**Credit Value:**	12.00	**Total Delivered Hours:**	72.00
Total Learning Hours:	120	**Private Study:**	48		

Delivery Options
Course typically offered: Summer

Component	Contact Hours
Lecture	28.000
Practical	28.000
Tutorial	14.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Exam	AS1	Examination	100.0	2.00

Aims

The aim of this unit is to let the students acquire the knowledge of the fundamentals and concept of software project management which includes the application of varied proven techniques, methods and tools such as software, process and project metrics for engineering highly cost effective, reliable and quality software systems.

Learning Outcomes

After completing the module the student should be able to:

1   Define management, the process of management and project management; distinguish between efficiency and effectiveness, the tasks involved and the tools for the project management and cost estimation.
2   Describe the importance of people as an individual and as a team in the software engineering process and learn the relevant factors and methods applicable in the management of people involved in the software process to achieve desirable performance.
3   Contrast the strengths & weaknesses of various process models.
4   Explain the essentials of quality management and ISO quality assurance standard in relation to software quality.
5   Apply software configuration management in project management and use its roles in software product evolution.
6   Identify the risks involved in a software system and the applicable contingency measures in managing the risks.
7   Analyse the programming techniques and areas of program faults for reliable system development and define software engineering environments, a proposed framework standard for software engineering environments.
8   Evaluate the advantages and disadvantages of reusing software components and the process involved in software development with reuse, and the process of critical systems development.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Exam	1	2	3	4	5	6	7	8

Outline Syllabus

1. Management and Project Management Concept

Introduction to Project Management
Views of Software Development Process
Project Manager's Knowledge, Attributes, Skills & Qualification
Project Management vs. General Management
Management Spectrum (People, Product, Process, Project)
Causes of Project Management Failures
Project Human Resource Management
Organisational Planning
Staff Acquisition
Team development

2. Software Metrics and Process Models

Difference between Measures, Metrics and Indicators
Usage of Process Indicators and Project Indicators
Size-Oriented Metrics, Function-Oriented Metrics and Extended Function Point Metrics
Selection of Process Models

3. Quality management and Assurance

Quality Concepts: Quality, Quality Control, Quality Assurance, Cost of Quality
Software Quality Assurance and Software Reviews
Formal Technical Reviews
Statistical Software Quality Assurance
ISO quality standard

4. Configuration Management

Introduction to Software Configuration Management
The SCM Process
Identification of Objects in the software configuration
Version Control
Change Control
Configuration Audit
Status Reporting

5. Risk Management

Introduction to Risk Management
Reactive vs. proactive risk strategies
Software risks
Risk Identification
Risk Projection
Risk Refinement
Risk mitigation, monitoring, and management
Safety Risks and Hazards
RMMM Plan

6. Software Dependability and Critical System

Introduction of Dependability
Dimensions of dependability (Availability, Reliability, Safety and Security)
Introduction of Critical Systems
Introduction of Safety Specification

7. Software Reusability

Engineering of component-based systems
The CBSE process
Domain Engineering
Component-Based Development
Classifying and Retrieving Components
Economics of CBSE

Learning Activities

Lectures are supported by tutorials and practical computer lab work

References

Course Material	Book
Author	Roger S. Pressman
Publishing Year	2005
Title	Software Engineering – A practitioner's approach
Subtitle	
Edition	6th Edition
Publisher	McGraw- Hill Companies, Inc
ISBN	0-07-301933-X

Course Material	Book
Author	Ian Sommerville
Publishing Year	2004
Title	Software Engineering
Subtitle	
Edition	7th Edition
Publisher	Addison-Wesley Publishers Limited
ISBN	0321210263

Course Material	Book
Author	Bennatan, E.M.
Publishing Year	1995
Title	Software Project Management, A practitioner's Approach
Subtitle	
Edition	2nd Edition
Publisher	McGraw-Hill
ISBN	

Course Material	Book
Author	Schwalbe, Kathy
Publishing Year	1999
Title	Information Technology Project Management
Subtitle	
Edition	
Publisher	Course Technology
ISBN	0-7600-1180-X

Course Material	Book
Author	Yeates/Cadle, James
Publishing Year	2004
Title	Project Management for Information Systems
Subtitle	
Edition	

Publisher	Financial Times Management
ISBN	0273685805

Notes

The module examines the principles behind project management in software development.