Liverpool John Moores University

Title:	SOFTWARE ENGINEERING TECHNOLOGY
Status:	Definitive
Code:	**7002COMP** (103262)
Version Start Date:	01-08-2011
Owning School/Faculty:	Computing and Mathematical Sciences
Teaching School/Faculty:	Computing and Mathematical Sciences

Team	Leader
Somasundaram Ravindran	Y

Academic Level:	FHEQ7	**Credit Value:**	15.00	**Total Delivered Hours:**	36.00
Total Learning Hours:	150	**Private Study:**	114		

Delivery Options
Course typically offered: Semester 1

Component	Contact Hours
Lecture	12.000
Practical	12.000
Tutorial	12.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Report	AS1	Analysis and design of a practical software system using the techniques covered in the module and the associated CASE tool.	100.0	

Aims

To provide a critical examination of the software development process through a study of a range of representative and emergent life cycle models, associated tools and techniques.
To promote the use of support tools, techniques and methodologies in the specification, design, implementation and management of software systems.

To provide an in-depth study of requirements engineering.
To examine current research issues in Software Engineering.

Learning Outcomes

After completing the module the student should be able to:

1 Critically analyse and specify the requirements of a software system using appropriate software development methodologies.
2 Apply project management techniques to the development of quality software.
3 Use advanced methods and techniques that promote the effective development of quality software.
4 Apply advanced CASE tools for software development life cycle support.

Learning Outcomes of Assessments

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

Analysis and design	1	2	3	4

Outline Syllabus

Software Development Process - Software characteristics, evolution of software systems, software applications, software techniques, software development process models and associated paradigms, comparison and selection of software development models, and software quality assurance.

Object Oriented Requirements Engineering - Object oriented concepts, identification of objects and classes, analysis of external system behaviours, modelling of object interactions, defining class structures, and analysis and modelling of object behaviours.

Object Oriented Design – Design concepts and principles, architecture design, mechanistic design, detailed design, design strategies, design patterns, and activity modelling.

CASE Tools: Effectiveness of CASE tools, and use of CASE tools for software development.

Learning Activities

Includes attending lectures, tutorials and labs, as well as reading books and handouts.

References

Course Material	Book
Author	Stevens,P. Pooley,R.
Publishing Year	2006
Title	Using UML:Software Engineering with Objects and Components.
Subtitle	
Edition	2nd
Publisher	Addison - Wesley
ISBN	

Course Material	Book
Author	Booch,G. Rumbaugh, J. Jacobson,I.
Publishing Year	2005
Title	The Unified Modeling Language User Guide
Subtitle	
Edition	2nd
Publisher	Addison - Wesley
ISBN	

Course Material	Book
Author	Oesterich, B.
Publishing Year	2002
Title	Developing Software with UML: Object-Orientated Analysis and Design in Practice
Subtitle	
Edition	2nd
Publisher	Addison - Wesley
ISBN	

Course Material	Book
Author	Sommerville,I
Publishing Year	2004
Title	Software Engineering
Subtitle	
Edition	7th
Publisher	Addison - Wesley
ISBN	

Course Material	Book
Author	Maciaszek, L
Publishing Year	2004
Title	Requirements Analysis and Systems Design
Subtitle	Developing Information Systems with UML
Edition	2nd
Publisher	Addison-Wesley
ISBN	

Course Material	Book
Author	Roques, P
Publishing Year	2004
Title	UML in Practice
Subtitle	The Art of Modelling Software Systems Demonstrated Through Worked Examples and Solutions
Edition	
Publisher	Wiley Higher Education
ISBN	

Course Material	Book
Author	IEEE
Publishing Year	0
Title	Transactions on Software Engineering
Subtitle	
Edition	
Publisher	ISSN: 0098-5589
ISBN	

Course Material	Book
Author	IEE
Publishing Year	0
Title	Proceedings - Software
Subtitle	
Edition	
Publisher	Print ISSN: 1462-5970, Online ISSN: 14639831
ISBN	

Notes

In this module the software development process is studied. Requirements analysis, design techniques and development support tools are considered, as well as project management techniques.