COURSE SYLLABUS

1. COURSE TITLE

Software Development Workshop III

2. COURSE CODE

COMP3053

3. PRE-REQUISITE

COMP3013 Database Management Systems

4. CO-REQUISITE

Nil

5. NO. OF UNITS

3

6. CONTACT HOURS

42

7. OFFERING UNIT

Computer Science and Technology Programme, Division of Science and Technology

8. SYLLABUS PREPARED & REVIEWED BY

Prepared by: Dr. Xin FENG
Reviewed by: Dr. Weifeng SU

9. AIMS & OBJECTIVES

This workshop aims to help students have some practices in working as a software engineer via the development of a project. The course will also show students how to elicit and document specifications, design software architecture, test the implementation, communicate as a team, and use appropriate tools. The students are expected to be able to apply the software engineering principles and methods to software development.

10. COURSE CONTENT

Topics	Hours
I. Version control system	4

a. How to use version control system
b. How to organise the materials with a project

II. Requirements acquisition 9
a. Customer interview
b. Meeting minutes
c. Prototypes

III. Software specification 6
a. Documentation
b. UML diagrams

IV. Programming and testing 21
a. Programming
b. Unit testing
c. System testing
d. Tools

11. COURSE INTENDED LEARNING OUTCOMES (CILOS) WITH MATCHING TO PILOS

Programme Intended Learning Outcomes (PILOs)

Programme Title: Bachelor of Science (Honours) in Computer Science and Technology	
PILO	**Upon successful completion of the Programme, students should be able to:**
PILO 1	**analyse** the basic principles of computer science and technology;
PILO 2	**translate** real world problems into IT requirements;
PILO 3	**design** and **develop** complex software;
PILO 4	**apply** up-to-date technology to **solve** general problems in specific areas;
PILO 5	**communicate** effectively and **collaborate** in a team.

CILOs-PILOs Mapping Matrix

Course Code & Title: COMP3053 Software Development Workshop III		
CILO	**Upon successful completion of the course, students should be able to:**	**PILO(s) to be addressed**
CILO 1	**Develop** large software applications by using diagrams and tables in the requirements analysis, design, and testing,	PILOs 3, 4
CILO 2	**Compose** the standardised documents for requirements	PILOs 3, 4

Course Code & Title: COMP3053 Software Development Workshop III		
CILO	**Upon successful completion of the course, students should be able to:**	**PILO(s) to be addressed**
	specification, architecture design, test plan and report, team work,	
CILO 3	**Use** computer-aided software engineering tools to support the project management, design, and testing.	PILO 4
CILO 4	**Cooperate** with team members in the project management.	PILO 5

12. TEACHING & LEARNING ACTIVITIES (TLAS)

CILO No.	TLAs
CILO 1	● **Lecture:** The instructor will teach students how to use diagrams and tables to interview customers in software development. ● **Hands-on practice**: Students will have the practices in interviewing customers. ● **Project**: Each student is required to join a group to implement a middle-scale project.
CILO 2	● **Lecture:** The instructor will teach students how to document software materials in software development. ● **Project**: Each student is required to join a group to implement a middle-scale project.
CILO 3	● **Lecture:** The instructor will teach students how to use the up-to-date tools in software developments. ● **Hands-on practice**: Students will have the corresponding practices during the classes. ● **Project**: Each student is required to join a group to implement a middle-scale project.
CILO 4	● **Lecture:** The instructor will teach students how to communicate with team members in software developments. ● **Hands-on practice**: Students will have the corresponding practices during the classes. ● **Project**: Each student is required to join a group to implement a middle-scale project.

13. ASSESSMENT METHODS (AMS)

Type of Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
Project (System specification and design)	45%	CILOs 1-4	This part of project is to check students' ability in using software engineering methods in software specifications and design
Project (Coding and testing)	30%	CILOs 1-3	This part of project is to check students' ability in writing code from design documents and testing a system.
Project (Project management)	10%	CILOs 1-4	This part of project is to check students' ability in managing a project using a tool.
Presentation	15%	CILOs 1, 4	The presentation checks students' ability in presenting their work to clients.

14. TEXTBOOKS / RECOMMENDED READINGS

TEXTBOOK:

Nil

RECOMMEND READINGS:

[1] I. Sommerville, Software engineering, 9th Ed., Addison-Wesley, 2011.

[2] B. Hughes, M. Cotterell, Software project management, McGraw-Hill Higher Education, 2009.

[3] N. S. Godbole, Software quality assurance principles and practices, Artech House, 2013.

[4] M. R. Blaha, J. Rumbaugh, Object-oriented modeling and design with UML, 2nd Ed., Cambridge University Press, 2004.

[5] H. Gomaa, Software modeling and design: UML, use cases, patterns, and software architectures, Cambridge University Press, 2013.

[6] H. Podeswa, UML for the IT business analyst : a practical guide to object-oriented requirements gathering, Course Technology/Cengage Learning, 2010.

[7] P.C. Jorgensen, Software testing: a craftsman's approach, 4nd Ed, Auerbach Publications, 2013.

[8] G. D. Everett, R. McLeod, Jr., Software testing: testing across the entire software development life cycle, Wiley-Interscience, 2007.

[9] M. Andrews, J. A. Whittaker, How to break Web software: functional and security testing of Web applications and Web services, Addison-Wesley, 2006.

[10] J. D'Anjou, S. Fairbrother, D. Kehn, J. Kellerman, P.t McCarthy, Java developer`s guide to Eclipse, Addison-Wesley Professional, 2004.

[11] N. C. Zakas, Professional JavaScript for Web developers, Wiley, 2012.

15. MEDIUM OF INSTRUCTION (MOI)

English

Revised on: <2016-12-20>