Subject Description Form

Subject Code	COMP445
Subject Title	Software Process and Project Management
Credit Value	3
Level	4
Pre-requisite / Co-requisite/ Exclusion	Pre-requisite: COMP302 (not applicable for 61025) Co-requisite/Exclusion: Nil
Objectives	• To provide students a systematic approach to initiate, plan, execute, control and close a software project. • To develop a good understanding of the nine project management areas, and the role of a typical PM. • To equip students with understanding of the best practices, and techniques used in project management processes. • To enable students to gain a working knowledge of ISO 9000 and CMMI, and process improvement techniques.
Intended Learning Outcomes	Upon completion of the subject, students will be able to: *Professional/academic knowledge and skills* (a) appreciate the importance of software process and management; (b) apply project management techniques for information systems development; (c) Apply the management skills to monitor and control a software project; *Attributes for all-roundedness* (d) work together as a team in preparing a report; (e) communicate in writing a technical document; (f) communicate effectively in English for general project presentation. **Alignment of Programme Outcomes:** Programme Outcome 1: Practice communication skill in discussion and project presentation and documentation. Programme Outcome 4: Think and reason critically on developing alternatives in process and project management, and be able to manage projects by applying

<table>
<tr><td></td><td>suitable process models and management technologies.

Programme Outcome 7: Work together as a team in project management.</td></tr>
<tr><td>Subject Synopsis/ Indicative Syllabus</td><td>
<table>
<tr><th>Topic</th></tr>
<tr><td>1. Project management fundamentals
Attributes of project; project life cycle; project management processes; successful project manager; general management skills.</td></tr>
<tr><td>2. Project integration management
Project plan; change control; configuration management; corrective and preventive action; stakeholder analysis.</td></tr>
<tr><td>3. Project scope management
Project charter; net present value; cost/benefit analysis; scope planning, definition, verification and change control.</td></tr>
<tr><td>4. Project time management
Project size and metrics; identifying activities; WBS; PBS; CPA; scheduling; critical chain.</td></tr>
<tr><td>5. Project cost management
Estimation techniques; earned value analysis; COCOMO; resource planning; value analysis; cost management plan, budgeting and control.</td></tr>
<tr><td>6. Project quality management
Quality model; quality definition; ISO 9001; CMMI; improvement cycle; trend analysis.</td></tr>
<tr><td>7. Human resource management
Organization structure; team building; conflict; effective team; team meeting; reward and recognition systems.</td></tr>
<tr><td>8. Communication management
Communication means; communication techniques for teams of different sizes; barriers to communication; building effective team communication; reviews; performance reporting.</td></tr>
<tr><td>9. Risk management
Different types of risk; risk response planning; risk analysis; risk monitoring and control.</td></tr>
<tr><td>10. Procurement management
Procurement planning; solicitation planning; solicitation; source selection; contract administration; contract closeout; negotiation.</td></tr>
<tr><td>11. Process improvement models
Software process improvement tools and techniques.</td></tr>
</table>
Case Study:

Case studies and projects are adopted for students to discuss and study the software process and management. Report writing and presentation is needed.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>Lectures focus on introduction and explanation of key concepts and techniques. Tutorial and lab sessions provide students opportunity to practice the techniques and tools presented in class. Assignments and project allow students to deepen their understanding of the concepts taught in class and apply the theory and techniques to software process and project management. Students will be encouraged to work in groups to share and present ideas, review other’s work, and develop teamwork skill.</td></tr>
</table>

Assessment Methods in Alignment with Intended Learning Outcomes

Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
		a	b	c	d	e	f
1. Assignments	55%	✓	✓	✓			
2. Lab exercises		✓	✓	✓			
3. Project					✓	✓	✓
4. Mid-term		✓	✓	✓			
5. Examination	45%	✓	✓	✓			
Total	100 %						

Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Assignments, project and mid-term test act as a measure on the understandings of the students on the basic concepts of the software process and project management.

In addition, project will be used to measure the understandings of the students about the current practice in process and project management. The students can improve their presentation and communication skills through the project presentation, and practice team work. Students can also develop their analytic and problem solving skills.

Examination will be used as an overall measure of the understandings of the students on software process and project management.

Student Study Effort Expected

Class contact:	
▪ Lecture	39 Hrs.
▪ Tutorial	0 Hrs.
Other student study effort:	
▪ Work on assignments and project, self study	85 Hrs.
▪ Prepare mid-term test and exam	30 Hrs.
Total student study effort	154 Hrs.

Reading List and References

Textbooks:

Cadle, J., Yeates, D., Project Management for Information Systems, Prentice Hall, 2006.

Reference Books:

A Guide to the Project Management Body of Knowledge, Project Management Institute, 2008.

	Hughes, B., Cotterell, M., Software Project Management, McGraw-Hill, 2009. ISO standard. http://www.iso.ch SEI.CMMI Tutorial, www.sei.cmu.edu/cmmi/publications/stc.presentations/tutorial.html