Unit Outline

The Software Process: Principles, Implementation and Improvement (CITS8220)

6 points / Semester 1
Location: UWA (Crawley)

Handbook Description

This unit focuses on the underlying principles of software processes, their analysis, measurement and improvement. These principles are examined using current research-oriented and commercial implementations. Understanding the principles enables a student to select an appropriate process methodology for a specific software development environment, measure its effectiveness and improve the process over time. Topics covered include software process components; development life cycles; processes modelling and simulation; measuring and assessing process methodologies; the meta process and methodology verification. Current process methodologies that are critically examined include Rational Unified Process, Personal Software Process/Team Software Process, Lightweight (Agile) Processes and OpenSource Process. A variety of software process improvement and assessment methodologies are examined including CMM, CMMI, 6Sigma, TQM, and AMIBootstrap.

Prerequisites: CITS4220 Software Quality and Measurement. Students must be enrolled in the Master of Engineering in Information and Communications Technology or the Master of Computer Science.
Corequisites:

Unit Aims

Students gain an understanding of all aspects of software development life cycles and processes; learn techniques to critically evaluate a process and customise it to specific development environments; learn several process methodologies and models; understand mechanisms for the measurement and assessment of process effectiveness; and are able to improve and optimise the process.

Teaching Staff

Unit Co-ordinator: Associate Professor Terry Woodings
Textbook

Contact Hours

lectures/tutorials: 39 hrs

Assessment

This comprises three submitted assignments and a research project with a presentation. Supplementary assessment is not available in this unit.

Unsatisfactory Progress

Any student who does not demonstrate satisfactory progress in this unit, as defined in the FECP Policy on Assessment Practices and Procedures, may be refused admission to the final examinations. The final deadline for notification of unsatisfactory progress is the last day of Week 10.

Penalties

The School of Computer Science and Software Engineering has adopted a policy on minimum penalties for late items of assessment. This is the default policy of all units unless indicated otherwise, in writing, by the specific unit coordinator.

This policy shall apply to all items of continuous assessment, whether submitted either physically or electronically. Immediately after the submission deadline for an item of continuous assessment, a penalty of 20 percent will be applied PER DAY or PART THEREOF. The minimum mark possible for late submission is zero. The percentage is based on the item’s total contribution to the unit’s assessment. For example, a project contributing 40% to the unit’s assessment will incur a penalty of 8 marks for each day late until it is submitted or a mark of zero results.

A more detailed description is given in this School’s Policy on Late Submission. The Faculty does have an appeals procedure, the details of which can found at the Policy for Appeals.

Plagiarism

Plagiarism is broadly defined to be when any portion of the work presented for assessment, can be attributed to another party. The student making the submission should acknowledge what aspects of the presented work is not directly derived by them. For the purposes of plagiarism it is
irrelevant that you have been given permission by someone to copy their work and present it as your own.

You are directed to the School of Computer Science and Software Engineering Policy on Plagiarism and the Faculty of Engineering, Computing and Mathematics Policy on Plagiarism.

**Academic Conduct Essentials (ACE)**

All students who have not previously been enrolled at UWA are required to complete a short compulsory online module called Academic Conduct Essentials (ACE) within the first 10 weeks of semester. ACE introduces students to essential knowledge regarding ethical scholarship, helps prepare them for the expectations of their university career and informs them of correct academic conduct.

The unit can be accessed via WebCT. The final unit quiz must be completed with a mark of 80% or greater. Students may attempt the quiz as many times as they wish to gain the required pass mark. Completion of the unit will be recorded as an Ungraded Pass (UP) on students’ academic records. Non-completion (NC) within the required timeframe will also be documented on formal academic records. More information on ACE is available at ace.uwa.edu.au

**Special Consideration**

Applications for consideration, deferral of tests or exams or extensions of time for assignments on medical, personal or other grounds must be lodged with the faculty office no later than three working days after the due date for the assessment in question. This rule will apply to all students, except in exceptional circumstances.

**Faculty Marks Adjustment Policy**

Final assessment is subject to the Faculty Scaling Policy.

**Supplementary Examinations**

Supplementary examinations will be awarded in accordance with Faculty Policy on supplementary assessment.

**Student Rights**

The University's charter of student rights is available at http://www.secretariat.uwa.edu.au/home/policies/charter

**Academic misconduct**

The University of Western Australia strongly supports teaching and learning that promotes academic literacy and ethical scholarship for all students. As part of this commitment, UWA has recently developed new guidelines relating to Academic
Misconduct (including plagiarism). It is also developing a range of resources for students and staff to further strengthen academic literacy and ethical scholarship at UWA. Further details are available on the Teaching and Learning website.