Module Specification

Quality Models of Software and Information Systems [TSI]

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Contents

Part 1: Information

Module title: Quality Models of Software and Information Systems [TSI]

Module code: UFCEJ1-12-M

Level: Level 7

For implementation from: 2023-24

UWE credit rating: 12

ECTS credit rating: 6

College: College of Arts, Technology and Environment

School: CATE School of Computing and Creative Technologies

Partner institutions: Transport and Telecommunication Institute

Field: Computer Science and Creative Technologies

Module type: Module

Pre-requisites: None

Excluded combinations: None

Co-requisites: None

Continuing professional development: No

Professional, statutory or regulatory body requirements: None

Part 2: Description

Overview: This module explores quality frameworks, standards and techniques, providing students with the knowledge and understanding to produce high quality software.

Features: Not applicable

Educational aims: This module enables students to reason about and use current and emerging models of quality of software development processes and information services, in the implementation of IT projects.

Outline syllabus: Process approach. Quality models history.

CMMI Models.

Introduction to process improvement.

Process Institutionalisation.

Process Area Components.

Relationships Among Process Areas.

Using CMMI Appraisals.

Configuration Management.

Project Planning.

Project Monitoring and Control.

Risk Management.

Measurement and Analysis.

Quantitative Project Management.

Process and Product Quality Assurance.

Verification and Validation.

Requirements Management & Development.

Supplier Agreement Management.

Decision Analysis and Resolution.

Causal Analysis and Resolution.

Organisational Process Definition.

Technical Solution and Integrated Project Management.

Organisational Innovation and Deployment.

Six Sigma Overview.

ITIL (Information Technology Infrastructure Library) Overview.

Project Management & PMI.

ISO Standards and Software Quality Models.

Software and Information Systems Quality Models – what's the next?

Part 3: Teaching and learning methods

Teaching and learning methods: Learning and teaching will be provided to students in two forms: lectures and practical classes. During lectures, theoretical aspects of the course will be provided to students by the teaching staff. Lectures will be supported by presentations published and available to the students on e.tsi.lv under the module section. Also, additional materials, like publications on the internet, videos, etc will be presented in e.tsi.lv.

Automated tests are used as a formative type of knowledge assessment and are designed for continuous self-assessment of the knowledge acquired by the student. This will allow students to pay attention to material that they have not mastered enough.

The course ends with an exam, which is aimed at assessing the theoretical knowledge and practical skills acquired by the student in the process of studying the course.

Module Learning outcomes: On successful completion of this module students will achieve the following learning outcomes.

MO1 Evaluate the maturity levels of an organisation using appropriate standard and models.

MO2 Evaluate current techniques for measuring the effectiveness of the application of quality models.

MO3 Critically evaluate the characteristics and application of current popular quality frameworks.

MO4 Identify critical success factors and issues encountered during the implementation, adoption and management of information systems and propose suitable solutions.

Hours to be allocated: 120

Contact hours:

Independent study/self-guided study = 112 hours

Face-to-face learning = 48 hours

Total = 160

Reading list: The reading list for this module can be accessed at readinglists.uwe.ac.uk via the following link https://rl.talis.com/3/uwe/lists/CA5B4614-EC6B-AECE-796A-E584D82E430B.html?lang=en-gb&login=1

Part 4: Assessment

Assessment strategy: To assess the learning outcomes of this course, several types of activities are used, which include 1) performing automated tests independently (formative assessment) 2) performing practical works (summative assessment) 3) studying additional materials. 4) examination (summative assessment).

Portfolio work is carried out by students independently. The main task is the acquisition of practical skills and the application of theoretical knowledge gained during the classes. Based on the results of the implementation, a report is prepared, which is evaluated by the teacher.

The resit exam would be a different exam paper covering the same range of topics, while for the portfolio part of the course the student would be remastering/updating the original submission.

Assessment tasks:

Examination (First Sit)

Description: Written examination (2 hours).

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2

Portfolio (First Sit)

Description: A set of individual tasks.

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4

Examination (Resit)

Description: Written Exam (2 hours).

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO1, MO2

Portfolio (Resit)

Description: Resit failed elements of the portfolio.

Weighting: 50 %

Final assessment: No

Group work: No

Learning outcomes tested: MO3, MO4

Part 5: Contributes towards

This module contributes towards the following programmes of study:

Computer Science (Data Analytics and Artificial Intelligence) {Double Degree} [TSI] MSc 2023-24