Athlone Institute of Technology

Faculty of Engineering & Informatics

Semester 1 Examinations 2018

December Session

Bachelor of Science (Hons) in Software Design (Cloud Computing)
Bachelor of Science (Hons) in Software Design (Game Development)

Year 3

Software Engineering 3

External Examiner(s):   **Mr Jerh O'Connor & Dr Steven Davy**

Internal Examiner(s):   **Mr Michael P. Russell**

Instructions to Candidates: *(make sure you have received the **correct** exam paper)*

Read all questions carefully.
All questions carry equal marks.
Answer ALL Questions.

Time allowed: 2 Hours
No. of pages (including cover sheet, attachments/drawings): 2

Q.1.

(a) To help counter terrorism, many countries are planning or have developed computer systems that track large numbers of their citizens and their actions. Clearly this has privacy implications. Dicuss the ethics of working on the development of this type of system.

(10 marks)

(b) Compare and contrast the Waterfall and V Models of Software Development to the Scrum Process. Support your answer by clearly identifying and describing the phases of the Waterfall Model, V Model and Scrum process.

(10 marks)

[20 marks]

Q.2.

A process consists of skilled people employing documents, tools, and other resources to plan, perform, and improve tasks to produce a desired result. Employ an appropriate Process Description Template to describe a typical formal Review Process consisting of three main phases: Preparation, Meeting, and Follow-Up.

[20 marks]

Q.3.

(a) Explain why professional software is not just the programs that are developed for a customer. (5 marks)

(b) Explain how standards may be used to capture organizational wisdom about effective methods of software development. Suggest four types of knowledge that might be captured in organizational standards. (5 marks)

(c) What are the important differences between the agile approach and the process maturity approach to software process improvement? (5 marks)

(d) Describe three types of software process metric that may be collected as part of a process improvement process. Give one example of each type of metric.

(5 marks)

[20 marks]