

School of Science and Technology

## COURSEWORK ASSESSMENT ELEMENT

****MODULE CODE** **:** SOFT30121**

****MODULE TITLE** **:** Advanced Analysis and Design**

****MODULE LEADER** **:** Nigel King**

****TUTOR(S)** **:** Nigel King**

**Matthew Harris**

****MODERATOR :** Dr Rob Ranson**

****TITLE** **:** System analysis, design and implementation**

****LEARNING OUTCOMES****

****ASSESSED** **:** S1-S5**

****WEIGHTING** **:** 70% of the overall module mark**

****DISTRIBUTION****

****DATE** : Teaching week 3**

****SUBMISSION****

****DATE** **:** First submission -22nd November 2019**

****:** Main report, code and exe – 14th February 2020**

**Demonstration of working code/tests and evaluation report – TBA within 2 weeks of submission**

**Phase test: In week starting 2nd March 2020**

****SUBMISSION****

****METHOD** : NOW drop-box by end of day (ie midnight)**

****NOTE** : The usual University penalties apply for late submission and plagiarism. Please consult your student handbook for further details.**

Work handed in up to five working days late will be given a maximum Grade of Low Third whilst work that arrives more than five working days will be given a mark of zero.

Work will only be accepted beyond the five working day deadline if satisfactory evidence, for example, an NEC is provided. Any issues requiring NEC [**https://ntu.ac.uk/current\_students/resources/student\_handbook/appeals/index.html**](https://ntu.ac.uk/current_students/resources/student_handbook/appeals/index.html)

The University views **plagiarism and collusion** as serious academic irregularities and there are a number of different penalties which may be applied to such offences. The [**Student Handbook**](http://www.ntu.ac.uk/current_students/resources/student_handbook/index.html) has a section on Academic Irregularities, which outlines the penalties and states that **plagiarism** includes:

'The incorporation of material (**including text, graph, diagrams, videos etc.**) derived from the work (published or unpublished) of another, by unacknowledged quotation, paraphrased imitation or other device in any work submitted for progression towards or for the completion of an award, which in any way suggests that it is the student's own original work. Such work may include printed material in textbooks, journals and material accessible electronically for example from web pages.'

Whereas **collusion** includes:

“Unauthorised and unacknowledged copying or use of material prepared by another person for use in submitted work. This may be with or without their consent or agreement to the copying or use of their work.”

If copied with the agreement of the other candidate both parties are considered guilty of Academic Irregularity.

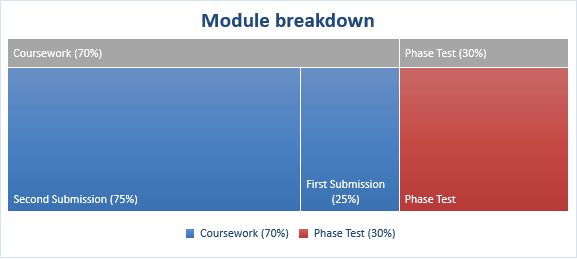
Penalties for Academic irregularities range from capped marks and zero marks to dismissal from the course and termination of studies.

To ensure that you are not accused of plagiarism, look at the sections on [**Plagiarism**](https://www4.ntu.ac.uk/library/developing_skills/referencing_plagiarism/Plagiarism_support/index.html)[**Support**](https://www4.ntu.ac.uk/library/developing_skills/referencing_plagiarism/Plagiarism_support/index.html) and [**Turnitin**](https://www4.ntu.ac.uk/library/developing_skills/referencing_plagiarism/turnitin/index.html) support.

## I. Assessment Requirements

The coursework is to be performed in groups. However all contributors in a group will be assessed individually in order to evaluate their contribution.

There are 2 submissions for this coursework: the software requirements specification (first submission) and the project report (second submission). The first submission is worth 25% of the coursework grade, and the second submission is worth 75%. As stated above, this coursework is worth 70% of the module grade.



Groups must be indicated to module leader via email with subject line “AAD Group” by 15th October 2019, 5pm.

Any student submitting any work for this module is deemed to be asserting it as their own, except where explicitly attributed. The deliverable must include a statement asserting this – the format of the statement is specified in the document “Disclaimer”. Hand-in will be via the NOW dropbox. End of day means any submission on/before that date will be accepted.

### First Submission (by end of day on 21st November 2019)

Each group should think of itself as a start-up software house, making a bid for a custom build of a software project. The customer has allowed discovery meetings to allow you to gather requirements. The team has to submit its specification as part of bid packet for the work. The lab tutor will act as a stakeholder in this project, and one of the team members will act as the project owner.

The software requirements specification where the individual requirements conform to the needs of being unambiguous, testable, clear etc. as will be covered in taught module.

This first submission will be a maximum of **15 pages**. End of day means any submission on/before that date will be accepted.

Each student must submit their report in **2** parts –

* 1. the requirements specification worked out by the group in one file (MS WORD 2016),
  2. An individual retrospective of the requirements gathering process including 3 sections:
     1. What worked well – what did you do that you would do on the next project
     2. What did not work well – what you did that you should not do in the next project
     3. What you did not do that you should do in the next project.

The individual retrospective should be no more than 3 pages.

A typical table of contents for the first part would be:

1. Introduction
   1. Purpose
   2. User Characteristics
   3. Assumptions
   4. Scope and Constraints
   5. Glossary of terms
   6. Overview
2. Functional Requirements
3. Non-Functional requirements
   1. Usability requirements
   2. Reliability requirements
   3. Performance requirements
4. Interfaces
   1. User interfaces
   2. Hardware interfaces
   3. Software interfaces
5. Use Case models
   1. Use Cases
   2. Misuse cases
6. Project Plan

The remainder of the assignment will be handed in by end of day 14th February 2020. All document limits assume font no smaller than 9. All group documents must be handed in via only one team member’s Dropbox.

### Second Submission (by end of day on 14th February 2020)

1. Code (i.e. Java, C++, C#)
2. Design documentation and diagrams. These should be accompanied by text explaining their purpose and what relationships they show. This should be no more than 20 A4 pages including diagrams. Each of the following should be included:
   1. Architecture Diagram
   2. Deployment Diagram
   3. Process Diagram
   4. Structure Diagram
3. A working implementation of the design - all source and executable files to be supplied electronically (including IDE project files) in order to test for functionality and/or plagiarism automatically. The system must be easily runnable for testing.
4. A user help document. It must be not more than 3 pages of A4.
5. An acceptance test plan. This should be no more than 8 pages. We will expect that any of the tests in the test plan may be run successfully on the supplied code. If this is not the case, you must provide a list of the tests that would/would not be passed.
6. AN INDIVIDUALLY WRITTEN evaluation and code review of the system, explaining how the system meets the quality attributes outlined in ISO 9126. This should be no more than 4 pages
7. A contribution form from each of the team members (these should be submitted independently via individuals’ Dropboxes)

The degree of effort and thought will be taken into account when allocating marks.

• The mark for the second part will be mainly derived from a demonstration of the assignment products and an interview about their design and structure. The documentation will be used to help in this process, and the individual critique used to help distinguish between individuals.

• Implementation may use existing low level classes from wherever the students choose to find them, provided they are also open source and covered by the same GPL as the product to which they will be applied. However such reuse must be fully attributed, and the design documentation should show good reason why the classes were appropriate for this problem. A lack of attribution will be considered as plagiarism and usual action will be taken.

• Unnecessary complexity for its own sake in an implementation will lose marks. However the design should take account of system issues such as error handling and performance.

• Documentation for the test plan and test procedures should be as concise as possible, while still being as prescriptive as necessary for a tester. Innovative structure and presentation that assist in this will be credited, so no format is provided here.

• The following brief summary (next page) is indicative of the expected standards. Actual pieces of work may have a spread of achievement. More detail is provided in the marking grid on NOW. Please note that different sections in the marking grid do not have equal weighting.

• The Phase Test will occur in week starting 2nd March 2019. It will be 2 hours, and will include a compulsory question related to the assignment in order to cross check that plagiarism has not occurred and to provide more individual assessment related to the coursework. The test is worth the remaining 30% of the module mark.

## II. Assessment Scenario/Problem

A stores management system to be used at a University. Further details and a briefing document will be provided separately.