

**Programme:** Digital and Technology Solutions **Level:** 2

**Module and Module Code:** UFCFUM-15-2 Object Oriented Software Design and Development I **UWE Credit Rating:** 15

**Module Leader:** Sean Shearing

**Assessment Component:** Component B

**Assessment Type:** Practical Assessment **Word Count/Duration:** No word count/duration

**Submission Date:** See Assessment Plan **Handout Date:** See Assessment Plan

**Submission Method:** Memory Stick Submission **Feedback Due Within:** 20 working days

**Assignment Title: OOSDD I A2 – Practical Assessment**

**This assignment covers 50% of the assessment for this unit**

**LEARNING OUTCOMES COVERED IN THIS ASSIGNMENT**

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| **Learning Outcome** |
| **Learning outcome 1:**   * Develop moderately complex software solutions and software modifications to specified requirements. (Component B)   **Learning outcome 2:**   * Debug own code and understand structure of programmes in order to identify and resolve issues. (Component B)   **Learning outcome 3:**   * Identify and apply best practices and standards. (Component B)   **Learning outcome 4:**   * Design, implement, test, and debug software to meet a requirements specification. (Component B) |

**Format:** See the programme and module guides for further guidance as to the standard format for this type of assessment.

**Note:** Students’ attention is drawn to the penalties attached to any form of assessment offence. In completing the assessment front sheet you are declaring that the work is entirely your own. References used in the assignment must be referenced according to the UWE Harvard System, as outlined in the Library Services’ iSkillZone (<http://iskillzone.uwe.ac.uk/RenderPages/RenderHomePage.aspx>).

# Marking guide:

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| **Grade** | **Descriptions** |
| **90-100%** | Meeting all of the requirements for the 89.9% mark and in addition demonstrating a creative and unique synthesis of ideas and concepts including an evaluation of the methodological approach adopted |
| **83-89.9%** | Comprehensive coverage of all criteria for assessment, all of which have been explicitly interpreted. Extensive interrelating of alternative viewpoints or resources with the development of novel or original ideas and in depth reflection.  Access to, and judicious selection from, a wide range of sources, many of which are original. Analysis and evaluation clearly and appropriately expressed demonstrating a confident integration of appropriate ideas and concepts in a succinct and elegant manner. Opportunities taken to refer to and engage critically with module learning outcomes and their implications as appropriate to the submission. The work  demonstrates the student's ability to engage with appropriate dimensions of genre and discourse |
| **76-82.9%** | Comprehensive coverage of all criteria for assessment, many of which have been explicitly interpreted. Extensive interrelating of alternative viewpoints or resources with the introduction of novel or original ideas and in depth reflection.  Access to, and judicious selection from, a wide range of sources, many of which are original. Analysis and evaluation clearly and appropriately expressed and a confident discussion of ideas and texts is demonstrated. Opportunities taken to refer to and engage critically with module learning outcomes. |
| **70-75.9%** | Comprehensive coverage of all criteria for assessment, many of which have been explicitly interpreted. Extensive interrelating of alternative viewpoints or resources with abundant evidence of reflection.  Access to, and judicious selection from, a wide range of sources, many of which are original. Analysis and evaluation clearly and appropriately expressed. Opportunities taken to refer to and engage critically with module learning outcomes. |
| **67-69.9%** | Extensive coverage of all criteria for assessment with sound interpretation apparent. Main issues or principles are clearly elaborated in clear, cogent and reflective argument. A good range of sources utilised and the use of primary sources is prioritised. Good analysis and evaluation, coherently and fluently expressed demonstrating a scholarly presentation of ideas and an astute sense of audience. Opportunities taken to refer to module learning outcomes. |
| **63-66.9%** | Extensive coverage of all criteria for assessment with some interpretation apparent. Main issues or principles clearly elaborated and with creditable degree of reflection. A good range of sources utilised, with some being original. Good analysis and evaluation, coherently and fluently expressed. Opportunities taken to refer to module learning outcomes. |
| **60-62.9%** | Coverage of all criteria for assessment with some interpretation apparent. Main issues or principles clearly elaborated and with creditable degree of reflection. A good range of sources utilised, with some being original. Good analysis and evaluation, coherently and fluently expressed. Opportunities taken to refer to module learning outcomes. |
| **57-59.9%** | Largely relevant coverage of the criteria for assessment with the main issues or principles identified explicitly. A satisfactory level of reflectivity upon a range of sources, all relevant but mostly secondary. Analysis and/or evaluation attempted with success. Module learning outcomes acknowledged with some implications reviewed. |
| **54-56.9%** | Largely relevant coverage of the criteria for assessment with the main issues or principles identified explicitly. A satisfactory level of reflectivity upon a range of sources, all relevant but mostly secondary. Analysis and/or evaluation attempted with moderate success. Module learning outcomes acknowledged with some implications reviewed. |
| **50-53.9%** | Largely relevant coverage of the main criteria for assessment and a satisfactory level of reflectivity upon a range of sources that are largely relevant but mostly secondary.  Some attempt at analysis with moderate success.  Module learning outcomes acknowledged and some implications reviewed. |
| **47-49.9%** | Adequate relevant coverage of the criteria for assessment with some development of the criteria but little interpretation apparent. Some irrelevance and/or inaccuracies in the selection of content. Reflection apparent with beginning of development but erratic analysis and evaluation. Level of study insular. |
| **44-46.9%** | Adequate relevant coverage of the main criteria for assessment.  Some irrelevance and/or inaccuracies in the selection of content. Reflection apparent but minimal analysis and evaluation. Module learning outcomes referred to appropriately. Level of study insular. |
| **40-43.9%** | Barely satisfactory coverage of the criteria for assessment with a substantial degree of irrelevance and inaccuracy apparent. Reflectivity acknowledged but lacking substance. Little analysis and evaluation.  Use of secondary sources only and little more than acknowledgment of the module learning outcomes. |
| **Fail** | |
| **35-39.9%** | Unsatisfactory coverage of the criteria for assessment with a substantial degree of irrelevance and inaccuracy apparent. Reflectivity acknowledged but lacking in substance. A marked absence of analysis and evaluation. Use of secondary sources only and little acknowledgement of the module learning outcomes. |
| **28-34.9%** | Failure to meet most of the stated criteria with the work largely irrelevant to the assignment set. Inappropriate reference to the literature and/or relevant experience. |
| **1-27.9%** | Failure to meet most of the stated criteria with the work largely irrelevant to the assignment set. Inappropriate reference to the literature and/or relevant experience. |
| **0%** | Failure through non-submission. |

# Marking criteria and distribution:

The following table outlines the weighting on specific tasks/learning outcome. Please ensure any word counts correlate in accordance to percentage weighting.

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| --- | --- | --- | --- |
| **Learning**  **Outcome** | **Criteria** | **Related Task** | **Percentage Weighting** |
| 1, 3, 4 | Write an efficient and effective object-oriented program in C++ to implement the solution, you must ensure that your code is fully documented. | 1 | 60% |
| 3 | Conforming to industry standards | 1 | 10% |
| 1, 3, 4 | Providing additional relevant functionality to the system | 1 | 10% |
| 2, 4 | Test the effectiveness of your application by creating a test plan and supporting evidence of testing i.e. screen shots. | 2 | 20% |

Please note that marking/grades will take into account the following:

* Academic writing skills.
* Range of referenced materials used.
* Correctness and accuracy of UWE Harvard referencing.
* Presentation of content and structure.
* Presentation skills (Presentations only).

# Assignment Introduction:

You have been employed as ‘Lead Programming Director’ for the programming division within a local software house. You have been assigned to help with a program that is being developed for the HR department. They are looking to help resolve the disputes team leaders are having over funding.

To do this you are required to create a payroll system to a specified requirements list that will help to determine what team leaders should be funded to successfully complete projects.

You should assume that the software house will employ a diverse number of staff under their employment that will be working a variety of hours, receiving various pay rates. A normal team would consist of:

* Three Senior Team Members
* Five Salaried Staff
* Five Contracted Staff (Paid Hourly up to 20 hours a week for 30 weeks)

The HR department also finds that projects can go over budget due to unforeseen circumstances, because of this, they will need to show how much extra budget will be required in case of project delays. They generally find that projects will cost an extra 10 to 35% extra than the original budget so would like these figures to be calculated and displayed.

The system will need to complete the following calculations:

* Overall total of the number of workers on the payroll
* Total amount of salary to the senior staff
* Total salary for the salaried staff
* Total Wages for the contract staff
* Total payroll bill
* Minimum and Maximum (10% and 35%) extra cost for delays

# Assignment Tasks:

## Task 1

Write an efficient and effective object-oriented program in C++ to implement the solution, conforming to industry standards. You must ensure that your code is fully documented.

*Note:*

Marks will be awarded for utilising industry standards such as; commenting, appropriate variable names, indentation and white space, appropriate code structures and Modularisation.

## Task 2

Test the effectiveness of your application by creating a test plan and supporting evidence of testing i.e. screen shots. This should clearly show that you have maintained version control of your project.

# Key Assessment Notes:

You will need to submit your program and supporting evidence on a memory stick.

**Please note:** Marks awarded will take into account the following industry standards:

* Appropriate variable names.
* Indentation and white space.
* Commenting.
* Appropriate use of programming structures and clarity of the design interface.