### ACS223 Computer Systems and Applications

**Semester 1 C++ Assessment (ACS223-002)**

**Marking Sheet**

**Student Registration Number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **Marking Criterion** | **Marks** | **Comments** |
| **Use of classes**  Is the program written in C++, with a main.cpp (it does not need to be called main.cpp) and at least two classes?  If no, then 0 for total mark on this assignment | Yes/no |  |
| **Meeting the requirements**  Does the program:  Display the list of numbers and their corresponding room size accordingly?  Allow the user to select a number of rooms?  Use ‘pass by reference’ arguments in a method for the room chosen by the user and its size?  Allow the user to select different temperatures?  Calculate the total cost and breakdown?  Allow the user to enter 3 efficiency ratings?  Calculate the cost of changing efficiency and the total payback period? | /2  /2    /2  /1  /2    /3  /6 |  |
| **Manage data**  Does the program correctly input and store information from the database file in an appropriate data structure/object in the program? | /4 |  |
| Display the final results in a neat table with appropriate information (such as units)? | /2 |  |
| **Manage user entries**  If the user inputs an incorrect entry, does the program allow the user to input again (for example, input an out-of-range number for room of efficiency rating)? | /4 |  |
| **Array of classes**  Does the program use an array of classes of size 3 to hold information about the 3 different efficiency ratings? And is this used effectively in the program?  Give 0 if no array of classes are used; 2 if an array of classes is declared; additional marks for using the array of classes in the program. | /8 |  |
| **Readability**  Is the program code well laid out, commented and easy to read? | /4 |  |
| **Elegance factor**  Is this an elegant program, which not only solves the problem correctly but shows a good attention to detail and usability? Does the program capitalise on the benefits brought by objects, e.g. via information hiding, abstraction and meaningful encapsulation? | /10 |  |
| **Total Mark**  **(Mark is provisional until unfair means reports have been reviewed)** | **/50** | |

Marker: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Penalties for late submission**

A late submission will be any assignment not submitted to MOLE by the deadline, and/or not turning up for marking appointment by 8am 13/11/2017 (5% penalty).

Late submissions will incur the usual penalties of a 5% reduction in the mark for every working day (or part thereof) that the assignment is late and a mark of zero for submission more than five working days late. For more information see <http://www.shef.ac.uk/ssid/exams/policies>.

**Unfair means**

This is an individual assignment, and it must be wholly your own work. You should not discuss a solution to this assignment with anyone else, and you should not work with anyone else to produce a solution.

You are permitted to view the resources on ACS223 MOLE, C++ text books and C++ programs published on the internet, for insight into C++ programming, but you are not permitted to copy any code that you have not written to submit as your own work. You are not permitted to seek or accept help on this assignment, or code for this assignment, via any internet site or forum. You are not permitted to work with any other person on this assignment, and you are not permitted to submit any other person’s algorithm or code as your own work. Any suspicion of the use of unfair means will be investigated and may lead to penalties. References must be provided to any other work that is used to inform the ideas for this assignment. See <http://www.shef.ac.uk/ssid/exams/plagiarism> for more information.

**Extenuating Circumstances**

If you have medical or serious personal circumstances which cause you to be unable to submit this assignment on time or which may have affected your performance, please inform me ([t.baldacchino@sheffield.ac.uk](mailto:t.baldacchino@sheffield.ac.uk)), and complete and submit an extenuating circumstances form along with documentary evidence of the circumstances.

See <http://www.sheffield.ac.uk/ssid/forms/circs>.

**Help**

This assignment briefing and the C++ labs and resources on the ACS223 MOLE course and the ACS223 reading list provide all the information that is required to complete this assignment. It is not expected that you should need to ask further questions. If you need clarifications on the assignment, then in the first instance please post a question on the ACS223 MOLE discussion board so that everyone can benefit from the response. You can also email me, or come to my office, D13, Amy Johnson Building (however I strongly recommend that you use the MOLE discussion board).