Faculty of Technology – Course work Specification 2019/20

Module name:	Object Oriented Design		
Module code:	CTEC2905		
Title of the Assignment:	Portfolio Assessment + Practical Lab Test		
This coursework item is: (delete as appropriate)	Summative		
This summative coursework will be marked anonymously		No	
The learning outcomes that are assessed by this coursework are: 1. Use Java to implement standard object-oriented designs given in UML. 2. Design and develop trustworthy software in the context of an object-oriented language.			
This coursework is: (delete as appropriate)	Individual		
This coursework constitutes 100% **to the overall module mark.**			
Date Set:	Monday 11th November 2019 at 00:01		
Date & Time Due:	Monday 6th January 2020 in your timetabled lab test.		
Your marked coursework and feedback will be available to you on: If for any reason this is not forthcoming by the due date your module leader will let you know why and when it can be expected. The Associate Professor Student Experience (CEMstudentexperience@dmu.ac.uk) should be informed of any issues relating to the return of marked coursework and feedback. Note that you should normally receive feedback on your coursework by **no later than 20 University working days after the formal hand-in date,** provided that you have met the submission deadline.	By 3/2/2020.		
When completed you are required to submit your coursework to: 1. Blackboard VLE through a submission portal. Further instructions will be provided during your lab test in week 15. **If you need any support or advice on completing this coursework please visit the Student Matters tab on the Faculty of Technology Blackboard page.**			
Late submission of coursework policy: Late submissions will be processed in accordance with current University regulations which state: *"the time period during which a student may submit a piece of work late without authorisation and have the work capped at 40% [50% at PG level] if passed is **14 calendar days**. Work submitted unauthorised more than 14 calendar days after the original submission date will receive a mark of 0%. These regulations apply to a student's first attempt at coursework. Work submitted late without authorisation which constitutes reassessment of a previously failed piece of coursework will always receive a mark of 0%."*			
Academic Offences and Bad Academic Practices: These include plagiarism, cheating, collusion, copying work and reuse of your own work, poor referencing or the passing off of somebody else's ideas as your own. If you are in any doubt about what constitutes an academic offence or bad academic practice you must check with your tutor. Further information and details of how DSU can support you, if needed, is available at: http://www.dmu.ac.uk/dmu-students/the-student-gateway/academic-support-office/academic-offences.aspx and http://www.dmu.ac.uk/dmu-students/the-student-gateway/academic-support-office/bad-academic-practice.aspx			
Tasks to be undertaken: See (following) attached document.			
Deliverables to be submitted for assessment: See (following) attached document.			
How the work will be marked: See (following) attached document.			
Module leader/tutor name:	**Luke Attwood**		
Contact details:	**lattwood@dmu.ac.uk (GH6.71)**		

Portfolio Assessment + Practical Lab Test

About this assessment

This assessment counts 100% towards your module mark. It takes the form of:

- A set of OO portfolio questions (*weeks 7 – 9*)
- A practical lab test (*week 15*)

The portfolio work is provided during your routine lab exercises between weeks 7 – 9. The lab test takes place during an extra timetabled session in week 15.

Objectives

The objective of this assessment is for you to demonstrate your ability to design and implement an OO system consisting of a set of Java classes. In particular:

1. To design and implement classes with suitable fields, constructors and routine methods.
2. To conform to the standard conventions of Java, and those taught on this module, and in doing so, write software that is of a Trustworthy nature.
3. To implement classes that are associated by delegation, composition, and aggregation, and the realisation of interface types.
4. To write a prescribed client application that uses your classes and to use JUnit Test Cases to evaluate your progress, and inform your development.

Portfolio work

The portfolio work aims to assess your understanding of the core topics covered during this module. There will be several lab exercise questions provided in weeks 7, 8, and 9, which contribute towards two overall portfolio case studies focussed around either a Player class or a Register class. The assessed questions will generally build upon work you have encountered during other lab questions during the module. It is therefore recommended that you attempt all lab exercise questions, both to assist your conceptual understanding, and to provide a basis for completing the portfolio work.

Assessed lab questions will be clearly outlined with a portfolio tag: **[✸Portfolio✸]**

There are two Portfolio case studies – A and B – that will be assessed, each with three parts:

Week	Lab Exercise	Portfolio A - Player	Portfolio B - Register
7	Ex 6: Composition & Aggregation	Question 6.3 (A.1)	Question 6.6 (B.1)
8 & 9	Ex 7: Interfaces	Question 7.2 (A.2)	Question 7.5 (B.2)
		Question 7.10 (A.3)	Question 7.9 (B.3)

Portfolio A consists of parts A.1, A.2 and A.3; Portfolio B consists of parts B.1, B.2 and B.3.

Javadoc comments

The Player and Register classes that will contribute towards your portfolio assessment should be fully documented with Javadoc, as per the module guidelines, and the quality of your comments will be assessed – *see Assessment Criteria section of this document*.

JUnit Test Cases

You will be provided with JUnit Test Cases containing a variety of unit tests, which will be used in part to mark your work (*see Assessment Criteria*).

In order to complete the assessed questions, you should primarily follow the UML class diagrams and lab question instructions, however, you will need to ensure that you use the same method signatures and return types as those specified in the unit tests in order to pass them. You can also read the messages in the assertion methods to gain a deeper understanding of the specific requirements of a given unit test.

You will not be able to pass all unit tests immediately. Taking Portfolio B as an example, in part B.1 you are given a variety of unit tests, however, not all of them will pass until you have completed each of part B.1, B.2 and B.3. You may therefore use the unit tests to gain ongoing feedback on your progress.

Marking note: Ideally, you should not modify the JUnit Test Cases, however, if you require to do so for debugging purposes, then please be aware that the original files handed out to you will be used to mark your work unless explicitly stated otherwise within a given question. Therefore passing a unit test that you have modified has no bearing on whether you will pass the unit tests used to mark your work following submission.

Important Note

Please do **NOT** be tempted to search the internet for an existing solution and then hand this in – e.g. if you run out of time. This is cheating – it is better to hand in what you have honestly achieved by yourself than try to get credit for someone else's work and risk getting caught. Cheating is an **academic offence**.

If you get stuck then please ask the module tutors for assistance and come to the labs – we will be providing help in the labs (but not actually doing it for you of course).

Do **NOT** use anyone else's material without referencing it – this is **bad academic practice** or **plagiarism**. These are considered as **academic offences**.

Do **NOT** work jointly on a solution; do **NOT** give your solution to anyone else to "help them" and do **NOT** accept anyone else's solution as "guidance". Such practice could lead to an allegation of **collusion** which is an **academic offence**. **All parties** involved in collusion (the givers, the receivers, the collaborators) can be found guilty of an academic offence, irrespective of motive.

Submission

You need to submit your attempted portfolio work through Blackboard VLE at the end of your lab test in week 15. More specific instructions will be given on the day of your lab test regarding the specific files we require you to submit for marking.

Preparation for the lab test

During your routine lab exercises between weeks 7 – 9 you will be provided with lab questions that count towards this assessment. You should attempt to complete each of these questions to the best of your ability.

In week 15, you will have a lab test where you will be asked to modify **one** of the two overall portfolio case studies – either A, or B (each of which is made up of three parts). Your overall work across both portfolio case studies will still be assessed however.

You are advised to revisit and study both of the portfolio questions and each of their respective parts prior to the lab test.

On the day of the lab test

The duration of the lab test will be 40 minutes. It is open-book and will be conducted under exam conditions.

The changes that you will be asked to make to your existing programs are not significant, but aim to assess your understanding of the programs you have produced.

Typical modifications that you may be asked to make to your programs during the lab test:

- Updating existing methods in a class.
- Adding new methods to a class.
- Adding additional code that uses aspects of your class.

You are allowed to refer to course material, your own projects within Eclipse, the Java API documentation online, and a text book. You may not use work produced by other students. You must not talk to other students, nor use email, mobile phones or any other messaging systems.

You may ask for clarification; the tutor will consider whether the question is suitable to be answered.

At the end of the lab test you will submit your portfolio work to Blackboard including your attempt at the lab test modifications.

Please turn over for Assessment Criteria...

Assessment Criteria

The following criteria show how you will be assessed for the submitted portfolio work:

- **Class Design (40%):** Class design (i.e. Player and Register) is sound and meets the requirements specified in each part of the corresponding portfolio case studies being assessed, and attempts to pass the JUnit tests provided.
- **Client Application (10%):** Client application (i.e. PlayerApp and RegisterApp) behaves correctly and attempts to pass the JUnit tests provided.
- **Documentation (20%):** Javadoc has been used to write class header descriptions and appropriate explanations of methods and constructors using Javadoc tags where necessary (for both Player and Register), supporting the idea of trustworthy software.
- **Lab test modifications (30%):** Modifications have been made and attempt to provide the required new functionality based on the JUnit tests provided.

The mark you receive for the first three criteria above will be split between the Player and Register portfolio case studies. Therefore 35% of your mark will be for the class design, client application and documentation associated with the Player class, and a further 35% will be awarded for these respective areas in relation to the Register class.

Furthermore, the mark you receive for the criteria: class design, client application and lab test modifications will be based upon the percentage of JUnit tests you have passed for that given component *. The examiner will provide a mark based on the quality of your Javadoc comments.

* Should the examiner who marks your work feel that you have hardcoded a solution to simply pass a given unit test, instead of following the instructions and specification provided, then they may use their discretion to override the original mark awarded.

Important submission note: Failure to attend your timetabled lab test in week 15, even if you subsequently submit your work, will be treated as a late submission.

Students that submit work late (within the permitted timeframe of the late submission assessment policy) will forfeit the chance to take the lab test, and will therefore automatically receive a mark of zero for the lab test modifications component of this coursework. The overall mark of the coursework will also be capped at 40%, as is standard for late submissions.