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|  | **FACULTY OF COMPUTING, ENGINEERING and SCIENCE** | Final mark awarded:\_\_\_\_\_ |

**Assessment Cover Sheet and Feedback Form 2019/20**

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| **Module Code:**  IS3S662 | **Module Title:**  Advanced Databases and Modelling | | | **Module Lecturer:**  Gaylor Boobyer |
| **Assessment Title and Tasks:**  Hospital Database Class Diagram | | | | **Assessment No.**  1 of 2 |
| **No. of pages submitted in total including this page:** Completed by student | | | | **Word Countof submission**  **(if applicable**):Completed by student |
| **Date Set:**  23rd September 2019 | | **Submission Date:**  13thJanuary 2020 | | **Return Date:**  10thFebruary 2020 |
| ***Part A: Record of Submission (to be completed by Student)*** | | | | |
| **Extenuating Circumstances**  If there are any exceptional circumstances that may have affected your ability to undertake or submit this assignment, make sure you contact the Advice Centre on your campus prior to your submission deadline. | | | | |
| **Fit to sit policy**:  The University operates a fit to sit policy whereby you, in submitting or presenting yourself for an assessment, are declaring that you are fit to sit the assessment. You cannot subsequently claim that your performance in this assessment was affected by extenuating factors. | | | | |
| **Plagiarism and Unfair Practice Declaration:**  By submitting this assessment, you declare that it is your own work and that the sources of information and material you have used (including the internet) have been fully identified and properly acknowledged as required[[1]](#footnote-1). Additionally, the work presented has not been submitted for any other assessment. You also understand that the Faculty reserves the right to investigate allegations of plagiarism or unfair practice which, if proven, could result in a fail in this assessment and may affect your progress. | | | | |
| **Details of Submission:**  Note that all work handed in after the submission date and within 5 working days will be capped at 40%[[2]](#footnote-2). No marks will be awarded if the assessment is submitted after the late submission date unless extenuating circumstances are applied for and accepted (Advice Centre to be consulted).  **Work should be submitted to Blackboard on the submission date above but this will be treated as your submission receipt and you need to provide one printed copy on Monday 14th January 2020 before Noon.** | | | | |
| **You are required to acknowledge that you have read the above statements by writing your student number (s) in the box:** | | | Student Number: | |

**IT IS YOUR RESPONSIBILITY TO KEEP A RECORD OF ALL WORK SUBMITTED**

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| **Part B: Marking and Assessment**  **(to be completed by Module Lecturer)** |
| This assignment will be marked out of 100%  This assignment contributes to 30% of the total module marks. |
| **Assessment Task:**  You are required to produce a class model for the company detailed in Appendix A.  Where necessary, the diagram should be amplified with some words of explanation, particularly relating to **constraints** and **assumptions** made. To avoid cluttering the diagram, the class model should not contain attributes and operations. **Rather you should, for each class, list separately likely attributes and operations**. It is not necessary to list the attribute accessor operations (get & set methods). The class diagram should be inserted into a Word document**. I do not want a disk as part of your submission**.  Be careful to remain within the stated limited scope of the assignment.  Class model:  You should provide an analysis/design model showing:-  all the relationships between the classes including **inheritance, aggregation, composition and other associations where relevant**.  Name the associations and show the multiplicity.  **Detail the important attributes and operations for the classes.** |
| **Learning Outcomes to be assessed**(as specified in the validated module descriptor [http://icis.glam.ac.uk](http://icis.glam.ac.uk/)):  To critically evaluate the requirements and subsequently design and implement an appropriate solution for a problem of defined scope using advanced design/modelling techniques in non-trivial situations.   |  |  |  | | --- | --- | --- | | **Marking Scheme** | **Marks Available** | **Marks Awarded** | | Class diagram | 60 |  | | Class attributes | 12 |  | | Class operations | 18 |  | | Assumptions | 10 |  | | **Total** | 100 |  | |  |  |  | |

**Appendix A**

**Hospital Database System**

The following scenario is a simplified version of a hospital database system.

A **hospital** wishes to implement a new database system to replace the number of individual systems they currently utilise to keep track of **patients**, **nurses**, **doctors**, **doctor teams**, **wards** etc. At the moment they wish to exclude the outpatient’s department in this new system.

**On entry to the hospital, a patient is allotted a bed in a particular ward**.

Most patients will not be transferred from a ward during their stay in hospital but may be transferred to another bed in that ward. For those patients who are transferred to other wards, details of previous ward allocations need to be kept. However, no history of bed transfers within wards need be kept (only the current bed allocation).

*Nurses are allocated to wards and there will be one nurse (sister) who supervises all other nurses on that ward (this is a simplification)*. Assume that nurses do not change supervisor whilst working on a particular ward. I.e. three teams of nurses – one on day shift, one on afternoon shift and one on night shift at any one time(again, a simplification). There must be a mechanism to allocate nurses to wards, but there is no requirement to record previous/future ward/nurse allocations.

**Each consultant will have a number of patients allocated solely to him/her. A ward can only be overseen by one consultant, but a consultant may have a number of wards to oversee.**

**Each consultant will have a team of doctors working for him/her.**

**The registrars (senior doctors) will report only to a particular consultant, but the housemen (junior doctors) may work for a number of consultants.**

As with nurse, there is no need to record allocations to previous consultants/registrars/housemen, but there must be a mechanism to re-allocate doctors.

All visits by doctors (**consultants, registrars or housemen**) to patients need to be recorded. **All details of current medication the patient takes on a regular basis on admission to the hospital also need to be recorded**.

In addition, all medication given to the patient needs to be recorded with a record of who gave the patient the medication (nurse or doctor).

Where necessary, the diagram should be amplified with some words of explanation, particularly relating to constraints and assumptions made. To avoid cluttering the diagram, the class model should not contain attributes. Rather you should, for each class, list separately likely attributes. The class diagram should be inserted into a Word document**. I do not want a disk as part of your submission**.

Be careful to remain within the stated limited scope of the assignment.

Class model:

You should provide an analysis/design model showing:-

all the relationships between the classes including inheritance, aggregation, composition and other associations where relevant.

Name the associations and show the multiplicity.

Detail the important attributes for the classes.

**Appendix B**

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| **Criteria** | **Fail (< 40)** | **Pass (40 – 49)** | **Pass (50 – 59)** | **Merit (60 – 69)** | **Distinction (70 +)** |
| Class Diagram  /60 | Class model severely deficient in entity classes.  Multiplicities incorrect on most relationships. | Reasonably sound class model with some omissions and errors.  Multiplicities incorrect on many relationships. | Good class model with most appropriate classes, associations and multiplicities. | Good class model with most appropriate classes, associations and multiplicities. | Very good class diagram with most/all appropriate classes, associations and multiplicities. |
| Attributes /12 | Class model severely deficient in attributes. | Some attributes identified | A good representative set of attributes identified. | A good representative set of attributes identified. | A very good representative set of attributes for the classes. |
| Operations /18 | Class model severely deficient in operations. | Some operations identified | A good representative set of operations identified. | A good representative set operations identified. | A very good representative set of operations for the classes. |
| Assumptions  /10 | Few or no assumptions that demonstrate a lack of understanding of the scenario and real world issues. | Some assumptions that demonstrate a reasonable understanding of the scenario and real world issues. | Some reasonable assumptions made. | Clearly documented assumptions that demonstrate a good understanding of the scenario and real world issues. | Clearly documented assumptions that demonstrate a very good understanding of the scenario and real world issues. |

1. University Academic Integrity Regulations [↑](#footnote-ref-1)
2. Information on exclusions to this rule is availablefrom Campus Advice Shops [↑](#footnote-ref-2)