**H17135 – Object Oriented Programming Student:**

**Evidence Requirements**

**LO1: Design should demonstrate**

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| --- | --- |
| Abstraction, encapsulation and information hiding used where appropriate |  |
| Polymorphism used if appropriate to the solution |  |
| All class-wide variables are private to prevent content coupling |  |
| Class-wide variables are kept to a minimum to ensure a minimum of common coupling |  |
| Data coupling is used (parameter passing) in preference to content or common coupling |  |
| Inheritance used if appropriate to the solution |  |
| Program does not contain a lot of unnecessary data coupling |  |
| Classes are highly cohesive |  |

**LO2: Implementation should demonstrate**

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| Declaring and initialising variables |  |
| Using operators |  |
| Implementing control structures |  |
| Defining data structures |  |
| Accessing and manipulating data structures |  |
| Using parameter passing |  |
| Creating Classes |  |
| Creating instances of classes |  |
| Creating relationships between classes |  |
| Creating Constructor methods |  |
| Overloading methods |  |
| Use of exceptions |  |
| Use of standard object libraries |  |
| Documenting code |  |
| The program must consist of at least four classes, and at least one ‘one-to-many’ association must be implemented. |  |
| There must also be correct use of encapsulation and inheritance. |  |

**LO3: Testing should demonstrate**

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| Test Strategy |  |
| Test Plan |  |
| Test data |  |
| Expected Results - Actual Results - ActionTaken |  |

**H17135 – Object Oriented Programming**

**Target Functionality:**

|  |  |
| --- | --- |
| At first start-up: | |
| Pre-populate program with instances of: | |
| * + 1. One Admin user |  |
| * + 1. Three of each other user type |  |
| * + 1. Three of each type of Stock item |  |
| At each subsequent start-up: | |
| * 1. Populate with User objects previously made persistent |  |
| * 1. Pre-populate program with instances of: |  |
| * + 1. Three of each type of Stock item |  |
| 1. At shut-down – make all User objects persistent |  |
| 1. Admin Login |  |
| 1. User Login |  |
| 1. For each type of user – display screen(s) with options that are appropriate for that type of user |  |
| For Admin Login: | |
| For Users: | |
| * + 1. Add new User |  |
| * + 1. Record Loan |  |
| * + 1. Record Loan being returned |  |
| * + - 1. Calculate fine if appropriate |  |
| * + 1. List all Users |  |
| * + 1. List all Logins |  |
| * + 1. List all Loans |  |
| For Stock: | |
| * + 1. Add new Stock Item (all types) |  |
| * + 1. Edit existing Stock Item |  |
| For User Login: | |
| * 1. Edit profile excluding own ID |  |
| * 1. View Logins history |  |
| * 1. View Loan history (if appropriate) |  |
| * 1. Reserve Stock item |  |
| * 1. Search catalogue by Stock item Title |  |