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|  | **Faculty Of Art, Science and Technology**  **Field of Computing** |

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| **Module Level:** | Level 5 |
| **Module Code + Name:** | CSY2080| Relational Databases |
| **Credit Value:** | 20 |
| **Module Leader:** | Ankit Thapa (ankit.thapa@nami.edu.np) |
| **Assessment Code + Type:** | PJ1 | Group Development | |
| **Assessment Deliverable(s) as stated in the Module Specification:** | The aim of this assessment is to develop and demonstrate knowledge of database architecture through the translation of an entity relationship diagram and associated table specifications to create and query a functioning database using SQL in Oracle. The database should adhere to good practice, professionalism and appropriate standards throughout. | |
| **Weighting (%):** | **50%** | |
| **Submission Date:** | 19th May 2025 | |
| **Feedback and Grades:** | See NILE for feedback under Assessment and Submission | |

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| **Learning Outcomes aligned to this assessment** |
| **Aim:** Understand and apply the principles of database integrity in the design and development of database structures. |
| **Subject-Specific Knowledge, Understanding & Application** |
| 1. Implement data modelling techniques to produce an ERM |
| 1. Interpret an ERM to define a relational database using SQL script files |
| 1. Model and implement database integrity. |
| 1. Formulate and write queries to manipulate data and provide meaningful results |
| **Changemaker & Employability Skills** |
| 1. Problem solving: Evaluate datasets to discover insights and address potential problems |

To achieve this you will need to:

1. *Demonstrate* understanding of your work and how it relates to the brief
2. *Participate* as a member of a team to deliver a database system conforming to appropriate standards and conventions.

**NOTE**: Students who can not demonstrate understanding of their work, will not pass.

**The module tutor may invite you for an online viva-voce. Poor demo/viva could negatively influence other sections in the marking criteria and result in an overall fail grade.**

**Assessment Overview**

This assignment requires you to complete all assignment tasks to achieve the learning outcomes. You should complete this assessment in groups of 3 or 4 (see groups).

The assessment includes 3 key elements:

1. Database **Design** based on ERD provided (*Table Specifications*)
2. Database **Development** based on task 1 design (*Script Files*)
3. Database **Demonstration** based on tasks 1 and 2 (*Video Link or Files*)

**NOTE**: all tasks **must** be based on the Entity Relationship Diagram provided separately

**Assessment Tasks**

**Task 1: Database Design -** table specifications

Develop a correct set of normalised table specifications derived from the entity relationship diagram provided avoiding redundance, with reference to the good practise. You should consider the following;

* appropriate table name, attributes, datatypes, constraints and defaults
* integrity: entity, referential and domain
* case

**Note**: Consider the design requirements before implementation and use the example table structure *provided on blackboard*.

**Task 2: Database Development -** Script files

Use the ERD provided and your table specifications (task 1) to develop script files detailed below\*. All files should have an appropriate extension (eg .sql) with comments and test statements.

* You should use **SQL in Oracle** to produce your database

The focus of this assignment is on **good practice and professionalism**, as highlighted throughout the module. Files must adhere to appropriate industry standards and conventions defined in the module. See good practice notes *provided on blackboard*.

**Task 3: Database Demonstration** – Video Viva

Record a 10 minute (or less) video demonstrating understanding of your work and explaining how it adheres to integrity. To achieve this you need to talk through your files (task 1 and 2) and align them to the requirements. All group members should contribute. See demonstration guidance *provide on blackboard.*

**NOTE: This is databases development, there are no grades for programming solutions or including PL/SQL or poor practice such as the TO\_DATE function.**

\*See deliverables for details.

**Deliverables**

1. ***Design****: Table specifications (word file) see template on NILE*
2. ***Development****: Script files\* (5 .sql files) see details below*
3. ***Demonstration****: Accessible video (video file or link) see template on NILE*

**\*Script Files**

All files should have good practice names and the correct extension. Script files should include an initial comment block and be well structured and commented throughout for usabilty. Standard SQL is declarative and therefore left aligned, as there is no flow. Your files should include relevant test statement to demonstrate understanding.

1. **Creates:** This file should contain:

* Create table commands for all tables, based on the ERD provided and table specs (T1)
* Tables should be in the correct order to maintain referential integrity
* Include:
* Any attributes you consider important
* Appropriate datatypes
* Any validation you consider important for integrity

1. **Constraints:** This file should contain:

* Alter table… add constraint commands for all tables, based on task 1
* Constraints should enforce entity and referential integrity
* Constraints should be in the correct order to maintain integrity
* Any validation or defaults you consider relevant to maintain domain integrity

1. **Insert:** This file should contain:

* Insert commands for all tables
* Minimum of 5 records should be inserted as test data for each table
* Inserts should be in the correct order to maintain integrity
* Inserts should be appropriate to support queries in listed in point e
* Inserts should demonstrate range of skills and apply methods used in points a and b
* Inserts should not use TO\_DATE()

1. **Drops:** This file should contain:

* Drop table and constraints commands for all structures
* Drops should be in the correct order to maintain integrity
* Any additional commands you consider important

1. **Queries:** This file should contain, queries to achieve the following data, based on the ERM:
2. A simple **query** to return all the records from one table
3. A **projection** query with 3 columns

* data returned sorted in reverse alphabetical order

1. **Restriction** queries with *multiple* clauses demonstrating the following

* a comparison operator with predicate for people who live in Northampton
* a condition matching a pattern eg beings with M
* a negative condition with predicate eg do not live in Northampton
* a logic operator with predicates for children from Northampton
* a logic operator with predicates for children or people studying
* a date range condition eg this year January - December

1. Identify additional relevant data requirements to design **Join** queries to extract insightful information, clearly explain their purpose,with data from

* 2 tables
* 3 tables

1. Demonstrating additional or integrated skills eg parameter or functions

**Additional:** You should always consider good practice, clarity, readability and files maintenance. You should optimise your code to make it efficient and elegant.

**Assessment Regulations and Polices**

# Assessment Submission

* The deadline is 11.59pm (British time) on the due date *provided on NILE*
* Submit your work on NILE, under:

Assessment and Submission | Assessment 2| Database Development

* The completion and submission of your assignment is your responsibility
* Only work submitted through NILE will be graded
* Submission should be in the appropriate format eg word document, .sql files, video files
* You must grant relevant access to videos and links

Work correctly uploaded to Turnitin will get a receipt for proof of submission. Submission not through Turnitin, will have a green banner at the top of the screen for successful submission.

**Group Work**

I suggest you work with like-minded people aiming for a comparable grade, not just friends.

* You can select your own groups
* Anyone not in a group, will be allocated one through the blackboard system
* You should manage the group process and resolve any group issues amongst your team
* All practical elements of this assessment are in your group
* Group submission only require one submission per group

**Use of Generative AI and Others word**

* This assessment applies the following Generative AI guidelines

Category 1: No GenAI allowed

For this type of assessment you are unable to use GenAI due to the design of the assessment. For example, a closed book exam where you are required to demonstrate within controlled conditions that you have core knowledge or a skill in a particular area. As it is not possible to use GenAI within this type of assessment, you do not need to acknowledge use of GenAI.

**Note**: See University Of Northampton Guidance on [GenAI](https://libguides.northampton.ac.uk/referencing/ai)

**Academic Integrity**

* The UON’s Policy on Academic Integrity and Misconduct must be strictly implemented
* Submitting this assignment means that this is entirely your own individual work
  + All work for this submission must be your (your group’s) own
  + All work for this submission must be based on module content
* All work for this assignment must be developed originally & solely for this submission
* You may discuss work with other students, but any code written should be your own
* All sources must be referenced and clearly cited
* You must submit all items of the assessment according to the submission procedure stated in this document
* Failing to meet the university’s policy on AI and Plagiarism will impact your grade
* Failure to follow the submission procedure may impact your grade
* A high similarity report from TurnItIn my impact your grade, subject to investigation

***Note****: See University Of Northampton Guidance on* [*Plagiarism*](https://xerte.northampton.ac.uk/xertetoolkits/play_4922#page1)

**Grading:**

Your grade is dependent on achievement of the specified learning outcomes for this assessment. The rubric is used as a standard benchmark so assignments are marked equally. The grading rubric is based on the criteria you are assessed on. See the marking criteria rubric provided on NILE.

* Marks are given for assignment requirements only
* Marks are based on correctness, professionalism and good practice
* Late submissions, within 7 days of deadline, maximum grade is a pass, (40%)
  + This does not include resits, which are already capped at pass (40%)
* Late submissions, more than 7 days after the deadline, are fails
* Grades above 39% are a pass mark
* Passed assessments can not be retaken to improve the grade
* Students with grades less than a pass (40%) get 1 opportunity to resit the assessment
* Standard resit grades are capped at a pass (40%)

**Achievement:**

Students aiming for a good grade (60-69% band) must submitted the required, completed work to a high standard. You should aim to demonstrate a range of skills, methods and approaches, within the boundaries of good practice and standard conventions. ie if there are 2 methods of achieving a task, both good practice, you will get more marks for demonstrating both methods, eg inserts with and without column lists.

An exceptional grade (70%+) cannot be achieved if the basics are not correct or are of poor quality. In addition to completing the requirements demonstrate consideration and submit a comprehensive and quality assignment.

**Extensions and Mitigating Circumstances**

Students who experience extreme unprecedented circumstances that impact their study can appeal for extensions or [mitigating circumstances](https://www.northampton.ac.uk/about-us/governance-and-management/management/university-policies-procedures-and-regulations/) to extend the deadline of their assessments.

* A student who attends an examination or submits an assessment declares themselves ‘fit to sit’ and cannot afterwards submit a claim for Mitigating Circumstances.

**Marking Criteria**

*See rubric provided on NILE*