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| **DATE** | **AREA OF SPECIFICATION** | **LEARNING RELATED OBJECTIVES** | **LEARNING OUTCOME** | **ASSESSMENT AND HOMEWORK** |
| **WEEK 1** | **AO1** | 1. Understand the Purpose and Audience of the scenario provided for Cube Systems 2. Identify the key Database Activities that the system needs to perform as client requirements based on the scenario 3. Understand the stages of normalisation to the 3rd form | Students to be able to:   1. Understand the purpose of the new relational database system 2. Understand the audience who will be using it 3. Describe exactly how the relational database is going to work 4. Explain all the inputs, how these are going to be processed and what outputs there will be 5. explain what Normalisation is and why it is beneficial to perform it 6. Explain and justify any changes made during the 3 stages | **ASSESSMENT**   1. Identifying the needs of Cube Systems for relational database to manage the sales of the business orders 2. Planning the designs to meet the needs 3. Using the unnormalised dataset, normalise to the 3rd Normal Form, showing all the entities (tables) and attributes during each stage   **HOMEWORK**   1. Complete all learning outcome tasks set |
| **WEEK 2** | **AO1** | 1. Design a structure for the relational database system that could be used by a third party  * Illustrate the possible functions/features the system could use * Consider the needs of the client base on the scenario * Identify and explain how the structure links/connects together | Students to be able to:   1. Develop a data dictionary for the tables identified from the 3rd Normal Form 2. Produce an entity relationship diagram for the database | **ASSESSMENT**   1. Plans to include the following:  * Primary Key * Indexing column * Validation Rules * Input Masks * potential problems and justify how your design may solve these issues  1. An Entity Relationship Diagram shows how tables are joined (related) to each other  * Tables are joined (related) in a Relational Database through Primary and Foreign Keys * These relations come in three forms:   + One-to-Many   + Many-to-One   + One-to-One   **HOMEWORK**   1. Consider the structure and layout of the database system  * Consider the colours, style, etc... |
| **WEEK 3** | **AO1** | 1. Design a structure for the relational database system that could be used by a third party  * Illustrate the possible functions/features the system could use * Consider the needs of the client base on the scenario * Identify and explain how the structure links/connects together | Students to be able to:   1. Produce a plan of each relational database component: 2. Tables 3. User interface 4. Forms 5. Reports 6. Explain what you have used and why | **ASSESSMENT**   1. Plans to include the following:  * Data Dictionary   + Table name   + Table Structure   + Data Types   + Combo Boxes   + Validation Rules – with customised error messages   + Input Masks * User Interface / Forms / Reports   + Layout   + Formatting (Cells, text, shading, borders)   + Action buttons (Macros)   + Data entry messages   + Drop down boxes or other   **HOMEWORK**   1. Using an appropriate database software, prepare the structure of each database table you plan to create based on the data dictionary designs (AO1) |
| **WEEK 4** | **AO2** | 1. Implement a relational database system based on the designs using various different skills and techniques within the software application | Students to be able to:   1. Produce your relational database based on the designs identified during AO1 2. Provide evidence of how you have implemented your system for Cube Systems 3. Insert sample data into the database tables created   REMEMBER – The grade you will achieve depends on the functions you use AND how closely your relational database follows your plan | **ASSESSMENT**   1. Implementation of relational database, must include (evidence required):  * Linked to the structure identified in AO1 * Verification and Validation routines   + input masking   + dropdown or combo boxes   + checks for completeness (field sizes)   + data consistency  1. Implementation of the relationship between the relational database tables  * Justify and explain your choices made * Explain HOW you have enforced the referential integrity between the tables  1. Evidence of data inserted into the tables created   **HOMEWORK**   1. Continue with the implementation of the spreadsheet based on the designs |

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| **WEEK 5** | **AO2** | 1. Implement a spreadsheet system based on the designs using various different skills and techniques within the software application 2. Identify and explain the integrity and validity of the database implemented | Students to be able to:   1. Produce your spreadsheet based on the designs identified during AO1 2. Provide evidence of how you have implemented your system for Cube Systems   REMEMBER – The grade you will achieve depends on the functions you use AND how closely your spreadsheet follows your plan | **ASSESSMENT**   1. Implementation of relational database, must include (evidence required): 2. Explain to the end user how you have ensured that you have maintained your databases integrity by enforcing referential integrity. 3. Create the forms based on the designs produced for your database  * Provide screenshot evidence for creating the forms including any validation methods used  1. Illustrate evidence (screenshots) in the form of using a consistent and appropriate styling in the design and construction of a database for:  * Naming of all database tables * Name of fields used within the database tables * Naming of all database forms * Designs of all database forms * Consistent use of a house style   **HOMEWORK**   1. Complete all tasks 2. Ensure the table have a variety of data, this will assist greatly for the remainder of tasks within this unit of coursework |
| **WEEK 6** | **AO3** | 1. Explain how the database system operates/processes 2. Display information appropriately within a page 3. Filter information within the spreadsheet | Students to be able to:   1. Use and explain how your database operates, as it was intended for: 2. At least three different logical operators 3. At least three different range operators 4. parameter queries 5. crosstab queries 6. calculated fields 7. potential problems and justify how your query can be solved 8. Present and explain how the database works in normal view and query view   REMEMBER – The grade you will achieve depends on the functions you use AND how closely your spreadsheet follows your plan | **ASSESSMENT**   1. Screenshot evidence of how the database operates 2. Illustrate evidence (screenshots) in the form of using a consistent and appropriate styling in the design and construction of a database for:  * Naming of all database queries * Name of fields used within the database tables and queries   **HOMEWORK**   1. Complete all learning outcome tasks set |

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| **WEEK 7** | **AO4** | 1. Use an advanced techniques within the relational database application for:  * Manipulating/filtering relevant information * Automating a process | Students to be able to:   1. Customise and/or implement a user interface allowing access to all areas of the database 2. Explain why you have created this 3. Create and use a macro, highlighting the complex features/skills used 4. Explain why you have created this 5. Benefits from using a macro 6. Creating the data entry forms and ensure validity and integrity of data | **ASSESSMENT**   1. Design and create forms which will utilise the use of:  * Subforms * Calendar * Others  1. Analyses the use of advanced features 2. Illustrate evidence (screenshots) in the form of using a consistent and appropriate styling in the design and construction of a database for:  * Naming of all database forms * Designs of all database forms * Design of automated function * Consistent use of a house style   **HOMEWORK**   1. Complete all learning outcome tasks set |
| **WEEK 8** | **AO5** | 1. Use an advanced techniques within the database application for:  * Manipulating/filtering relevant information * Presenting the information in a customised report | Students to be able to:   1. Create the reports based on the designs produced for your database  * Refer to the Database Activities (*AO1 - Task 2*) to design the reports for any outputs that are produced, both printable and on screen | **ASSESSMENT**   1. Design and create reports which will utilise the use of the sketches produced during AO1 2. Illustrate evidence (screenshots) in the form of using a consistent and appropriate styling in the design and construction of a database for:  * Naming of all database queries * Naming of all database reports * Name of fields used within the database tables * Designs of all database reports * Consistent use of a house style   **HOMEWORK**   1. Complete all learning outcome tasks set |

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| **WEEK 9** | **AO6** | 1. Explain in basic terms HOW to use the relational database system implemented focusing on the functionality and navigation in logical and systematic form | Students to be able to:   1. Create a step-by-step guide illustrating how the system is used and operates | **ASSESSMENT**   1. Screenshot evidence of how the database operates, illustrating the functionality  * ‘How to start the database’ * ‘Navigation of the system’ * ‘How to input data’ * ‘Storing information * ‘Searching information’ * ‘How to respond to error messages’ * ‘Generating Invoices’ * ‘Reports’ * ‘Analysing Data’   **HOMEWORK**   1. Complete the user guide |
| **WEEK 10** | **AO6** | 1. Explain HOW you implemented the relational database system identifying the techniques and tools used (standard and advanced) | Students to be able to:   1. Create a step-by-step guide illustrating how the system is created | **ASSESSMENT**   1. Screenshot evidence of how the database is created, using normal view and formula view  * ‘Hardware and Software Requirements’ * ‘How to open the system and configure’ * Explain the following areas for every sheet created:   + Tables   + Relationships   + Forms   + Reports   + Macros used (show the macro code generated)   + Validation and Verification processes (*relationships, drop down values, data ranges, etc...)* * ’Input and Output’     **HOMEWORK**   1. Explain how you have *met the end user requirements*. Explain how the functionality and features work. 2. Remember *look back at your purpose and audience* and justify why you have produced the database. 3. *Explain how you have met the user needs*. |

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| **WEEK 11** | **AO7** | 1. Test the implemented relational database system focusing on techniques and tools used and the functionality based on the needs identified during AO1 | Students to be able to:   1. Explain how you have *met the end user requirements*. 2. Explain how the functionality and features work 3. Create a test table to test the functionality of the relational database | **ASSESSMENT**   1. Screenshot evidence of how the database is supposed to operate with a range of acceptable and unacceptable input, expected output and any associated error messages. 2. Screenshot evidence of any changes required so that the database works as intended.   **HOMEWORK**   1. Complete all tests required to ensure the database system meet the end user requirements. 2. Make relevant changes if required (show evidence of the fixes performed) |
| **WEEK 12** | **AO6** | 1. Evaluate the implemented relational database system based on the needs identified during AO1 2. Critically analyse and provide suggestions for improvement with examples | Students to be able to:   1. Produce an evaluation on your database that focuses on the (case study you created in A01):  * **purpose and audience** * **user requirements** | **ASSESSMENT**   1. Screenshot evidence of features used within the database to meet the needs of Cube Systems 2. Critically analyse and provide suggestions for improvement with examples   **HOMEWORK**   1. Submission of coursework |

**Cross-Curricular Links to other subject within Scheme of Work**

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|  | **Week** |
| **Business Studies** | 1 |
| **Design & Technology** | 1 -5 |
| **English** | ALL |
| **History** |  |
| **Mathematics** | 3-7 |
| **Music** |  |
| **Science** | 10 |
| **PSE**   * **Social** * **Economic** * **Ethical** * **Moral** * **Legal** | 1  3-7  11  8-9 |