

Learning Programme

Fundamentals of databases – A Level

| Topic/Content | Objectives/Skills | Homework | Assessment | Stretch & Challenge (Thirst for Learning) |
|--|--|---|---|--|
| Conceptual data models and entity relationship modelling | <ul style="list-style-type: none"> • Produce a data model from given data requirements for a simple scenario involving multiple entities. • Produce entity relationship diagrams representing a data model and entity descriptions in the form: Entity1 (Attribute1, Attribute2,). | | Access Database creation SQL worksheets Past exam papers End of topic test | Create a database for their project Look into the schema method used instead of Databases in larger systems |
| Relational databases | <ul style="list-style-type: none"> • Explain the concept of a relational database. • Be able to define the terms: <ul style="list-style-type: none"> ○ attribute ○ primary key ○ composite primary key ○ foreign key | Watch Craig and Dave video on normalisation | | |
| Database design and normalisation techniques | <ul style="list-style-type: none"> • Normalise relations to third normal form. • Understand why databases are normalised. | Normalisation worksheets | | |
| Structured Query Language (SQL) | <ul style="list-style-type: none"> • Be able to use SQL to retrieve, update, insert and delete data from multiple tables of a relational database. • Be able to use SQL to define a database table. | Research the different DDL statements | | |

| | | | | |
|-------------------------|--|--|--|--|
| Client server databases | <ul style="list-style-type: none">• Know that a client server database system provides simultaneous access to the database for multiple clients.• Know how concurrent access can be controlled to preserve the integrity of the database. | | | |
|-------------------------|--|--|--|--|