<table>
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<tr>
<th>Week</th>
<th>Topic</th>
<th>Hours</th>
<th>Remarks</th>
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</thead>
</table>
| 1-2  | **1.0 DATABASE CONCEPTS**  
1.1 Introducing The Database  
1.2 The Historical Roots Of Database  
1.3 Files And File Systems  
1.4 A File System Critique  
1.5 Database Systems  
1.6 Database Models | 4 | Peter Rob:  
Chapter 1  
Mini Project:  
Briefing  
Forming Group  
Proposal due week 5  
Lab:  
• Getting Started with IBM DB2: Installation and Using a Database |
| 2.0  | **DATA MODELS**  
2.1 The Importance of Data Models  
2.2 Data Model Basic Building Blocks  
2.3 Business Rules  
2.4 The Evolution of Data Models  
2.5 Degrees of Data Abstraction | 4 | Peter Rob:  
Chapter 2  
Lab:  
• Lab Objectives  
• Introduction to SQL |
| 3-4  | **3.0 THE RELATIONAL MODEL**  
3.1 A Logical View Of Data  
3.2 Keys  
3.3 Integrity Rules Revisited  
3.4 The Data Dictionary And The System Catalogue  
3.5 Relationship Within The Relational Database  
3.6 Data Redundancy Revisited  
3.7 Indexes | 4 | Peter Rob:  
Chapter 3  
Tutorial 1:  
Database Concepts/Relational Model  
Lab Exercise:  
Simple SQL Queries |
| 5-6  | **4.0 ENTITY RELATIONSHIP (E-R) MODELING**  
4.1 Entity Relationship (E-R) Modelling  
4.2 Basic Modelling Concepts  
4.3 Data Models  
4.4 The E-R Model  
4.5 Developing An E-R Diagram  
4.6 A Comparison Of E-R Modelling Symbols  
4.7 The Challenge Of Database Design  
4.8 Conflicting Goals  
4.9 Extended Entity-Relationship Modeling | 6 | Peter Rob:  
Chapter 4  
Tutorial 2:  
E-R Modelling  
Lab Exercise:  
Retrieving data from Multiple Tables  
Scalar Functions and Arithmetic  
Due:  
Project Proposal |
| 7-9  | Lab:  
• Retrieving data from Multiple Tables  
• Scalar Functions and Arithmetic |
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<tbody>
<tr>
<td>10-12</td>
<td><strong>5.0 NORMALIZATION OF DATABASE TABLES</strong>&lt;br&gt;5.1 Database Tables And Normalization&lt;br&gt;5.2 The Need for Normalization&lt;br&gt;5.3 The Normalization Process up to 3NF&lt;br&gt;5.4 Normalization And Database Design&lt;br&gt;5.5 Denormalization</td>
<td>6</td>
<td>Peter Rob: Chapter 5&lt;br&gt;Tutorial 3: Normalization&lt;br&gt;Test 1&lt;br&gt;Lab Exercise: Column Functions and Grouping&lt;br&gt;UNION</td>
</tr>
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<td>13</td>
<td><strong>6.0 DATABASE DESIGN</strong>&lt;br&gt;6.1 The Information System&lt;br&gt;6.2 The Systems Development Life Cycle (SDLC)&lt;br&gt;6.3 The Database Life Cycle (DBLC)&lt;br&gt;6.4 Database Design Strategies&lt;br&gt;6.5 Centralized Versus Decentralized Design</td>
<td>2</td>
<td>Peter Rob: Chapter 9&lt;br&gt;Lab Exercise: Using Subqueries&lt;br&gt;Maintaining Data&lt;br&gt;Lab: Using Subqueries&lt;br&gt;Data Definition Commands&lt;br&gt;Maintaining Data</td>
</tr>
<tr>
<td>14</td>
<td><strong>7.0 MINI PROJECT WORK</strong>&lt;br&gt;Project Demonstration</td>
<td>2</td>
<td>Peter Rob: Chapter 7&lt;br&gt;Tutorial 4: SQL&lt;br&gt;Test 2&lt;br&gt;Mini Project: Report Submissions and Presentations</td>
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ASSESSMENT:

Test 1 : 10%
Test 2 : 10%
Quizzes/Assignments/Attendance : 10%

Mini Project
• Proposal : 5%
  o Company Background
  o Problem Statements
  o Proposed Db Objectives
  o Initial Proposed ERD
• Relational Schema (3rd Normal Form) : 2%
• Report : 8%
  o Inclusion of Proposal
  o Data Definition Language
  o 10 Queries: Questions, SQL, Output
• Project Demo : 5%
  o Db Demo
  o Pop Up Questions
Final Examination : 50%

Passing grade is C (50%)

RECOMMENDED TEXT


REFERENCES
