## **Course Outline**

Course Title Database Management System

Course Code ITEC 204

Overall Course Aim(s) Introduce Students to Database Concepts

- Teaching Methods
- Assigned Readings
- Practical Sessions
- Lectures
- Research Assignments

#### Contact

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## **Course Information**

**Course Description** Understand the fundamental principles in the design of Database systems

#### **COMP 205 Database Concept 1**

The original stimulus for this course came from an individual work in industry, providing consultancy on database design for new software systems or, as often as not, resolving inadequacies with existing systems. In addition, the objectives of this course, therefore, are to provide a knowledge that introduces the theory behind databases as clearly as possible and, in particular, to provide a methodology for database design that can be used by both technical and nontechnical readers.

#### **Indicative Content**

- A. Acquire an understanding of Database Concepts
- B. Carry Out Basic database system task
- C. Acquire more hands on capabilities of debugging database issues.

## **Learning Outcomes**

#### **Learning Objectives**

Upon the completion of this course, the student is expected to be able to carry out basic system and concepts of operating systems such as:

- Understand the concepts of Database systems
- Understand the structures of Database Systems
- Be able to explain concepts in database
- Proficient in Database management and administration

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#### **Resources:**

#### Prescribed Textbooks

- a. Reading
- b. Connolly, T. M., &Begg, C. E. (2014). *Database Systems: A Practical Approach to Design, Implementation and Management. (6<sup>th</sup>ed.).* London: Addison Wesley.

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- c. Churcher, C. (2012). *Beginning Database Design*. (2<sup>nd</sup>ed.). New York, NY: A press.
- d. Any Good book on Database Concepts

# Assessment Type Weighting Week

| Type                       | Weighting | Week |
|----------------------------|-----------|------|
| Attendance                 | 10%       |      |
| Weekly Tests               | 10%       |      |
| Mid-Sem Test/Presentations | 20%       |      |
| Final Examination          | 60%       |      |
| Total                      | 100%      |      |

| Period     | Topic/Lecture content   | Assignments                              |
|------------|---|--|
| Week 1     | Introduction: Introduction database management, Database Job prospect, professional practice etc. | N/A                                      |
| Week 2     | Data Models   | Class Assignment                         |
| Week 3 & 4 | The Relational Database Model   |  |
|            |   | Write a brief report on a selected topic |
| Week 5     | Entity Relational Modelling and Advance Data Modelling  | Assignment                               |
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| Week 6 & 7   | Normalization of Database              |               |
|--------------|--|---------------|
|              |  | Assignment    |
| Week 8       | Introduction to Structured Query       |               |
|              | Language (SQL)                         |               |
|              |  | N/A           |
|              | Mid-Semester Exam/Presentations        | Presentations |
| Week 9       |  |               |
| Week 10 & 11 | Practical Database Design and          |               |
|              | Implementation using Microsoft SQL     |               |
|              | server.                                |               |
|              |  | Presentation  |
|              |  |               |
| Week 12      | Distributed Database Management System |               |
|              |  |               |
|              |  | Assignment    |