Module Overview

Topics List

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Module Delivery

- Tuition Team:
  - IT and MM: Brendan Jackman (bjackman@wit.ie)
  - SSD: Mary Lyng (mlyng@wit.ie)

- 12 Week Module
  - 3 lectures
  - 2 hour supervised lab

Module Description

- This module will introduce the student to the concepts and practice of relational database modelling.

- The student will gain competence in Conceptual Data Modelling and Logical Data Modelling.

- The student will also examine the redundancy that can arise in poorly modelled systems and apply Normalisation to eliminate the redundancy.

- They will gain experience in the design and implementation of a practical database system.

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Explain Database terminology, and the DBMS structure and components.

2. Describe the elements of the Relational Model.

3. Draw Entity Relationship (ER) diagrams for business scenarios.

4. Translate an ER diagram into a set of relations, which are ready for database implementation.

Learning Outcomes

On successful completion of this module, a student will be able to (continued) :

5. Convert unnormalised relations into a set of normalised relations through the rules of normalisation which adhere to relational data model principles.

6. Write Data Manipulation and Data Definition statements.

Indicative Content

- Database Concepts.
- Relational Model.
- Conceptual Data Modelling.
- Logical Data Modelling.
- Normalisation.
- SQL – Data Definition and Data Manipulation.

Supplementary Material

- Connolly, T. and C. Begg. *Database Systems: A practical approach to design, implementation and management*. 6th Ed. Boston: Addison-Wesley, 2015.

- Date, C.J. *SQL and Relational Theory: How to Write Accurate SQL Code*. 2nd Ed.. California: O' Reilly Media Inc, 2012.

- "Oracle Academy."

Assessment Methods

- Continuous Assessment: 50%
    - Weekly SQL practicals - 10%
    - Assessment 1 (SQL Select) - 15%
    - Assessment 2 (SQL DML & DDL) - 25%
- Examination: 50%