

Introduction to Databases 2 module

Breakdown of course

- This course is valued at 5 ECTS points.
- There are 52 contact hours, leaving 48 self-study hours.
- Weekly contact hours:
 - 2 hours lab (including quizzes)
 - 1 hour lecture
 - 1 hour lecture / tutorial
- Self-Study expectations:
 - Finish all lab / tutorial exercises assigned to you.
 - Undertake lab exercises.
 - Undertake group and individual assignments and lab tests.
 - Learn the theoretical and practical content of the course.

Lectures

- Design
 - Designing a data model and show that it is normalized.
 - Design the same data for implementation in MongoDB.
- Practical
 - Oracle SQL and PL/SQL.
 - MongoDB and Javascript.
- Theoretical
 - Theory of concurrent usage, architecture, data protection, security, recovery.
 - Introduction to Big Data

Tutorials

- Practice of database schema design.
- Problems relating to concurrency and transaction design.
 - ACID and BASE transactions.
- Design of a relational model (in a group) for a system from a set description.
- Design and specification of queries and transactions that would be required by the users of the designed system.

Practicals

- Continuing with Oracle SQL Developer.
- Implementation of standard query types on a populated schema.
- Creation and population of a schema as designed in tutorials.
- Implementation of task-based transactions, using commit and roll-back, taking concurrency issues into account.
- Design, implement and query MongoDB collections.

Assessment

- 40% practical:
 - See schedule on following slide.
- 60% examination (2 hours):
 - 4 questions, answer 3.
 - Q1 compulsory, worth 40%,
 - based on tutorial and practical work.
 - Q2, 3 and 4 worth 30% each.
 - Based on tutorial, practical and theory work.

Assessment Schedule

	Week starting date	Wk	Continuous Assessment with weighting	Lab Mark	CA
Sep-17	11/09/2017	1			
	18/09/2017	2	Lab participation marked	2	
	25/09/2017	3	Lab participation marked	2	
Oct-17	02/10/2017	4	Lab participation marked	2	
	09/10/2017	5	Lab test		8
	16/10/2017	6	Lab participation marked	2	
	23/10/2017	7	Lab participation marked	2	
	30/10/2017	8*	<i>Review week – catch up</i>		
Nov-17	06/11/2017	9	Submission	10	
	13/11/2017	10	Lab participation marked	2	
	20/11/2017	11	Lab participation marked	2	
	27/11/2017	12	Lab test or submission		8
Dec-17	04/12/2017	13			
	11/12/2017	14	Total CA marks	40	