Database Labratory

Fall 2022

Instructor:	Amir Hossein Rouhani Seraji	**Code:**	7232
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Course Pages: Please check this website two or three times a week

- https://rouhani-class.github.io/dblab001

Discussion Group: Every student has to be a member of our Telegram Channel and Telegram Group for our discussion and daily announcements.

- Telegram Channel.

- Telegram Group.

Teaching Assistant:

- Mehran Moeini Jam.

- Zeinab Emdadi.

- Parmida Ghamari.

- Ali Vanaki.

- Mohammad Hossein Khoshechin.

Prerequisites: An undergraduate-level understanding of Database Design concepts.

Objectives: This course is primarily designed for undergraduate students. In this course you will be learned how to design, administrate, and querying relational databases. In this course we focus on *Oracle Database* and we use *Oracle LiveSQL* which is a web-based and free platform for using and trying *Oracle Database*. The topics which will be covered are :

1. Database Design & Implementation

   - Review Relational Concepts
   - Review Semantic Modelling ER/EER
   - Review Normal Forms & Normalization
   - Using *Oracle* SQL, DDL Commands
   - Database Design Best Practices & Design Patterns

2. Writing Queries & Database Applications Programming

   - Review SQL, DML Commands
   - Review Techniques for Writing Queries
   - Introduction to PL/SQL(Static SQL, Dynamic SQL)
   - Introdcution to Java Database Connectivity (JDBC)

- Using OJDBC11 & Java15 to Write DB App

Main References: Our Lectuers are mainly based-on these books & docs.

- *Oracle Database 21c Docs*

- C. J. Date, *Database Design and Relational Theory Normal Forms and All That Jazz*, Apress, 2nd ed, 2019.

- Ramez Elmasri, Shamkant Navathe, *Fundamentals of Database Systems*, Pearson, 7th ed, 2016.

- Preston Zhang, *Practical Guide for Oracle SQL, T-SQL and MySql*, CRC Press , 2017.

- Andrew Oppel, Paul Weinberg, Jams Groff, *SQL the Complete Reference*, McGraw-Hill , 2010.

- Andrew Oppel, Andy Sheldon, *SQL A Beginner's Guide*, McGraw-Hill, 4th ed, 2015.

- Steve Feuerstein, Bill Pribyl, *Oracle PL/SQL Programming*, O'Reilly, 6th ed, 2014.

- Daniel Liang, *Introduction to Java Programming and Data Structures Comprehensive Version*, Pearson, 12th ed, 2020.

Grading Policy: 5 Homeworks each one has (20%) of your Final grade, No Final and Mid-term Exam.