

DATABASE LABRATORY

Spring 2021

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/dblab>

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.
- [Mohammad Hossein Khoshechin](#).
- Mehdi Movahedian.

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, 7rd 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.