

# DATABASE LABRATORY

Spring 2021

---

<b>Instructor:</b>	Amir Hossein Rouhani Seraji	<b>Code:</b>	7232
<b>Email:</b>	<a href="mailto:ah.rouhaniseraji@gmail.com">ah.rouhaniseraji@gmail.com</a>	<b>Unit:</b>	1

---

**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, 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.