This course provides an exploration of software development with substantial reliance on a database for storage and retrieval of data.

Course Objectives

On successful completion of this course, students will be able to:

1. Design and create databases for use in modern software applications.
2. Skillfully and efficiently retrieve and update data in databases.
3. Access databases both directly (i.e., through the database client) and from software applications (i.e., from programming languages like Java and/or Python).

Required Materials

**Textbook:**

* [Murach's MySQL (3rd Edition) (Links to an external site.)](https://www.amazon.com/dp/1943872368/ref=cm_sw_em_r_mt_dp_U_er4pDbBXYJ2NA)

**Online:**

* [MySQL Documentation and Reference (Links to an external site.)](https://dev.mysql.com/doc/)

**Software:**

* [MySQL (version 8.0 or later) (Links to an external site.)](https://dev.mysql.com/downloads/mysql/)
* [MySQL Workbench (version 8.0 or later) (Links to an external site.)](https://dev.mysql.com/downloads/workbench/)
* [Java (Links to an external site.)](https://dev.mysql.com/downloads/connector/j/) or [Python (Links to an external site.)](https://dev.mysql.com/downloads/connector/python/) Connectors

Evaluation

There are **5 modules** in this course. Each module encompasses a portion of the material that the students learn through readings and programming exercises. All programming exercises must be demo-ed to the TA. All modules have a mini **quiz**that should be taken only after the programming exercises are done. The points for exercises and quizzes are shown in their headers, for a total of 100.

There are no pre-defined dates or deadlines for finishing the modules: show your exercises to one of the TAs and take the quizzes when you are ready to do so. The only constraint is that the modules have prerequisites on each other: you can only advance to the next module after completion the current one.