

Course Content

Course Title (English)	Database Management System – from SQL to NoSQL
Course Title (Chinese)	資料庫系統-從 SQL 到 NoSQL
Credit	3
Instructor	Prof. Ming-Ling Lo 駱明凌 教授
Outline	<p>Database processing and database management systems (DBMS) have been a corner stone of modern society. In science, engineering, business and enterprise alike, data play a central role in their progress. With recent developments in the fields of big data, machine learning, social networks, cloud computing and Internet of Things, to name a few, increases in data volume and manifestations of new data patterns have made the study of databases both more interesting and more challenging. In this course, we cover the theory and practice of database management systems. We discuss the modeling, programming, management, architecture and implementation aspects of DBMS, study the evolution from well-established relational SQL databases to the new NoSQL databases, and cover the newest trends in database research brought about by the challenges of the big data analytics.</p>
Goal	<ol style="list-style-type: none">1. Acquire basic knowledge and concepts about databases and database management systems (DBMS)2. Obtain basic capabilities of programming for databases, and basic capabilities of operating a DBMS3. Learn the design thinking and rationales behind various database technologies -- hope one day to use these design reasoning skills in real-life designs

	4. Learn the design thinking and rationales for large (often distributed) software systems
English Teaching	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Teaching Material	<input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese