**BAIS:4220 – Advanced Database Management and Big Data:**

Contemporary firms of all sizes store a wealth of data about their interactions with various stakeholders, such as customers, employees, shareholders, government, suppliers, and so on. Modern database management systems (DBMS) have long been used to store and manage massive data and are a crucial component of modern business intelligent systems. This course will build on skills learned in BAIS:3200 – Database Management to help students learn advanced querying and database management skills as well as introduce students to the top of “big data”.

**Students will learn:**

* Deeper knowledge of relational database principles and concepts
* Advanced SQL and PL/SQL programming skills
* Data quality, triggers and transaction management
* Basic theories of big data, cloud computing, distributed databases, Hadoop, and HiveQL

**Students will be able to:**

* Write advanced SQL queries (e.g., nested query) on Oracle database
* Utilize Procedural Language extensions to the Structured Query Language (PL/SQL) code for data management and analysis on Oracle Database
* Use stored procedures and triggers to interact with relational database management systems (RDBMS)
* Understand the basic idea of the Hadoop system and MapReduce. Write basic HiveQL queries to process large data using Hive and Spark.