

Database Systems in Business II

OMSBA 5142 | 3 credit hours

Fall 2020

Instructor: Andrew Snodgrass

Name – snodgraa@seattleu.edu

COURSE DESCRIPTION

This course continues the review of popular, modern database systems (started in OMSBA 5140) with a focus on semi-structured (NoSQL) and unstructured (Big Data) environments. The course will dive into the data management concepts of MongoDB and Hadoop, respectively, and provide an opportunity for students to query data structures that are distinctly different than the traditional SQL relational databases.

LEARNING OUTCOMES

On successful completion of this course (i.e. by passing this course), you will be:

1. Proficient in understanding the design and query of non relational database systems.
2. Able to understand and query NoSQL database systems, such as MongoDB's document data.
3. Develop a comfort with MongoDB Query Language (MQL) and understand how to build queries that access Document data structures
4. Develop skills in using Power BI's data query (M-language) tools to query a variety of data structures and systemsAble to query and visualize Graph data for network analysis.
5. Understand the complexities and design requirements for unstructured database systems using various deployments of Hadoop packages.

TEXTS AND MATERIALS

- *MongoDB The Definitive Guide, 3/E*, by Bradshaw, Brazil, & Chodorow, ISBN-978-1-491-95446-1; Publisher: O'Reilly
- *Hadoop Application Architectures, 1/E*, by Grover, Malaska, Seidman, & Shapira, ISBN-978-1-491-90008-6; Publisher: O'Reilly
 - This book is also available for free-download from Github at:
 - <https://github.com/samadhankadam/Hadoop-Ebook/blob/master/Hadoop%20Application%20Architectures.pdf>

COURSE OUTLINE

| WEEK | TOPICS |
|------|---|
| 1 | Introduction and Overview |
| 2 | NoSQL Overview |
| 3 | MongoDB (MQL) Basics |
| 4 | MongoDB Query Operators |
| 5 | MongoDB Aggregation / CRUD |
| 6 | MidTerm Exam |
| 7 | Power BI & Graph Data |
| 8 | Unstructured & Big Data Overview Hadoop Framework and Basics |
| 9 | Hadoop Data Modeling and Ingestion |
| 10 | Hadoop Processing and Orchestration |

EVALUATION AND GRADING

| Assignment | Percentage |
|--------------------------|-------------|
| Assignments | 40 % |
| MidTerm Exam | 20 % |
| Data Translation Project | 20 % |
| Final Exam | 20 % |
| Total | 100% |

| Point scale | Letter grade |
|------------------|--------------|
| 94.0% and higher | A |
| 90.0% - 93.9% | A- |
| 87.0% - 89.9% | B+ |
| 84.0% - 86.9% | B |
| 80.0% - 83.9% | B- |
| 77.0% - 79.9% | C+ |
| 74.0% - 76.9% | C |
| 70.0% - 73.9% | C- |

COURSE POLICIES

ATTENDANCE

Attendance in an online course is evidenced by logging into, and being an active participant, in our online course site. Active participation is an essential and intrinsic element of the education process. Absence affects the learning experience and erodes the program's norms for quality. Inactivity in the course may result in a grade reduction at the discretion of the instructor(s).

INTERNET ACCESS

We will use a variety of online applications to communicate and collaborate. As such, you will need a reliable, high-speed Internet connection for the duration of this course. If you are traveling to countries such as China, Vietnam, Saudi Arabia, Iran, Burma, and others, some content in this course may be blocked. Please contact me immediately if you will be traveling to a country that may block Internet access during any portion of this class.

LATE WORK

Assignments must be submitted by the set deadlines. Since professors block out times in their schedules specifically for grading your work, the MBA program faculty have established a policy of not accepting late work. We also understand, however, how demanding your work and school and life are as well. As such, we do allow late work to be accepted with a 10%/day grade reduction (including weekends). The deduction will be taken from the maximum number of points available on the assignment. Exceptions or extensions or modifications to these penalties may be made only in the event of rare and extenuating circumstances. Every effort should be made to let your professor(s) know about your extenuating circumstances before the assignment is due.

UNIVERSITY RESOURCES & POLICIES

ACADEMIC RESOURCES

- [Library and Learning Commons](#)

Research Services, Learning Assistance, Writing Center, Math Lab, Media Production Center

- [Academic Integrity](#)

ACADEMIC POLICIES

- [Academic Integrity](#)

- [Academic Grading Grievance Policy](#)

- **Support for Students with Disabilities**

If you have, or think you may have, a disability (including an “invisible disability” such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff located in Loyola 100, (206) 296-5740. Disability-based adjustments to course expectations can be arranged only through this process.

- **Notice Regarding Religious Accommodations**

It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, [Policy on Religious Accommodations for Students](#).

- **Office of Institutional Equity**

Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment.

Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.

Seattle U requires all faculty and staff to notify the University's Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student.

For more information, please visit <https://www.seattleu.edu/equity/>. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity by email: oiie@seattleu.edu or phone: (206) 296-2824.