

Course Syllabus for CAP 3793 Advanced Data Management

General Information	
Course Number/CRN	CAP 3793/CRN 13754
Course Title	Advanced Data Management
Semester/Year	Spring/2020
Offering College/ Department	Lutgers College of Business (LCOB)/ Information Systems and Operations Management (ISOM)
Credit Hours	3
Meeting Times/Location	Tuesday and Thursday, 9:00pm-4:15pm/Lutgers Hall 2212
Prerequisites	CAP 3786
Course URL	http://canvas.fgcu.edu
Is this a DL Course?	No.
Instructor Information	
Instructor	Dr. Thant Syn
E-Mail Address	tsyn@fgcu.edu
Phone Number	(239) 745-4556
Office Location	Lutgers Hall 3311
Office Hours	Tuesday and Thursday, 12:30pm-2:45pm; Wednesday, 3:30pm-4:00pm
Course Information	
Description	This course will provide students the practical and in-depth knowledge of emerging and advanced data management concepts and techniques commonly used in business organizations. Students will explore advanced extract, transform, load (ETL) techniques, data warehousing, big data in distributed environment, and advanced data processing techniques.
Learning Objectives	<p>Upon successful completion of this course, students should be able to:</p> <ol style="list-style-type: none"> 1. Explain advanced data management standards and techniques [LO1; Associated LCOB Learning Goal: Be effective problem solvers; Assessment Methods: Tutorials and Presentations] <ol style="list-style-type: none"> 1.1. Describe industry standard and emerging data management techniques 1.2. Describe database and data warehousing concepts 1.3. Explain big data technologies 1.4. Explain extract, transform, load (ETL) techniques 2. Integrate advanced data management to business solutions [LO2; Associated LCOB Learning Goal: Be effective problem solvers; Assessment Methods: Tutorials and Presentations] <ol style="list-style-type: none"> 2.1. Extract, transform, and load data from various data sources into an integrated database 2.2. Demonstrate the functionalities and operations of a data warehouse 2.3. Apply advanced database techniques such as NoSQL
Course Materials	<p>Required Textbook None (Required materials will be available in Canvas.)</p> <p>Required Software</p> <ul style="list-style-type: none"> • Microsoft PowerPoint (available in most computer labs as well as through VLAB https://www.fgcu.edu/aets/labs.aspx or an equivalent word processing software)

Course Policies

Grading Policy

Grading Components

Tutorials (3 @ 20 points each)	60 points
Presentations (3 @ 10 points each)	30 points
Attendance & Participation	10 points

Letter Grades

95 – 100%	A
90 – 94%	A-
87 – 89%	B+
84 – 86%	B
80 – 83%	B-
77 – 79%	C+
74 – 76%	C
70 – 73%	C-
67 – 69%	D+
64 – 66%	D
60 – 63%	D-
< 60	F

Tutorials

Each tutorial requires students to complete step-by-step tutorials for some emerging data management technologies and techniques. Students are required to complete the entire tutorial and submit the completed tutorial in Canvas. All 3 tutorials are required.

Collaboration with other students and the reference to or duplication from online/offline resources are strictly prohibited. Tutorials must be completed in the designated period only (see the class schedule below).

Presentations

Each presentation requires students to work in a group to select a specific relevant topic in advanced data management, prepare a professional presentation in Microsoft PowerPoint, and deliver an oral presentation in class. Every student is required to participate and deliver the presentation. Individual students will receive a grade based on their performance during the oral presentation.

Verification of Attendance

The university policy requires students to complete an attendance verification assignment in Canvas during the first week of the semester. Hence, each student must promptly complete the assignment after reviewing the course syllabus.

Expected Workload

Students are expected to spend an average of 6 hours per week preparing for and completing quizzes and projects in addition to the 3 hours of class time. In total, students should expect to spend **an average of 9 hours per week in this course.**

Extra Credits

There will be **no extra credits or additional assignments** at the end of the course.

Attendance Policy

Students are required to attend classes and participate in discussions as most of the learning activities take place during class sessions. Attendance will be taken regularly and participation will be recorded for every activity in the class. **Attendance of less than 85% of classes will be considered non-compliance with the course requirements and will automatically result in a non-passing grade.**

<p>Other Classroom Policies</p>	<p>Make-Up Coursework There will be no make-up for any coursework unless a student has obtained a permission in advance from the instructor for an excusable reason such as illness, family emergency, work-related travel, etc. which must be backed up with a proper documentation; if a permission is granted, the make-up coursework should be arranged at the discretion of the instructor within 7 days following the designated availability period. It is the student's responsibility to obtain a permission from and/or arrange the make-up with the instructor. Failure to obtain the permission in advance or arrange the make-up on time will lead to the forfeiture of the coursework.</p> <p>Communication with Instructor FGCU EagleMail will be the primary method of communication outside of the classroom. Students can expect to receive a response from the instructor within 24 hours except for the weekends.</p> <p>Use of Cell Phones, Laptops, and Other Electronic Devices Cell Phones, Smartphones, PDAs, and Other Electronic Devices (such as recording equipment) may not be used during class except at the express discretion of the instructor. Use of a Laptop or Tablet PC is permitted only if: (1) it is used for class function such as taking notes or following lecture notes, (2) the use does not distract the student from paying attention to class content, and (3) the use does not distract other students in class. Activities such as checking messages and browsing the Internet are expressly prohibited and if people are caught violating this policy, it could result in everyone losing the privilege.</p>
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University Statements

Academic Behavior Standards and Academic Dishonesty

All students are expected to demonstrate honesty in their academic pursuits. The university policies regarding issues of honesty can be found in the FGCU Student Guidebook under the Student Code of Conduct and Policies and Procedures sections. All students are expected to study this document which outlines their responsibilities and consequences for violations of the policy. The FGCU Student Guidebook is available online at <http://studentservices.fgcu.edu/judicialaffairs/new.html>.

University Nondiscrimination Statement

Florida Gulf Coast University is committed to ensuring equity and fairness for all University employees, students, visitors, vendors, contractors and other third parties. As such, the University prohibits discrimination on the bases of race, color, national origin, ethnicity, religion, age, disability, sex (including sexual harassment/assault), gender identity/expression, marital status, sexual orientation, veteran status or genetic predisposition with regard to admissions, employment, programs or other activities operated by the University. This prohibition extends to enforcement of Title IX of the Education Amendments of 1972. Questions or complaints should be directed to the Office of Institutional Equity and Compliance (OIEC). The OIEC's phone number is 239-745-4366; the OIEC's email address is OIEC@fgcu.edu.

Disability Accommodations Services

Florida Gulf Coast University, in accordance with the Americans with Disabilities Act and the university's guiding principles, will provide classroom and academic accommodations to students with documented disabilities. If you need to request an accommodation in this class due to a disability, or you suspect that your academic performance is affected by a disability, please see me or contact the Office of Adaptive Services. The Office of Adaptive Services is located in the Wellness Building. The phone number is 239-590-7956 or Video Phone (VP) 239-243-9453. In addition to classroom and campus accommodations, individuals with disabilities are encouraged to create their personal emergency evacuation plan and FGCU is committed to providing information on emergency notification procedures. You can find information on the emergency exits and Areas of Rescue Assistance for each building, as well as other emergency preparedness materials on the Environmental Health and Safety and University Police Department

websites. If you will need assistance in the event of an emergency due to a disability, please contact Adaptive Services for available services and information.

Student Observance of Religious Holidays

All students at Florida Gulf Coast University have a right to expect that the University will reasonably accommodate their religious observances, practices, and beliefs. Students, upon prior notification to their instructors, shall be excused from class or other scheduled academic activity to observe a religious holy day of their faith. Students shall be permitted a reasonable amount of time to make up the material or activities covered in their absence. Students shall not be penalized due to absence from class or other scheduled academic activity because of religious observances. Where practicable, major examinations, major assignments, and University ceremonies will not be scheduled on a major religious holy day. A student who is to be excused from class for a religious observance is not required to provide a second party certification of the reason for the absence.

Tentative Schedule (Subject to Change)

Week	Dates	Topics	Activities/ Assignments	Learning Objectives
1	1/6 – 1/12	Introduction	<i>Verification of Attendance</i>	
2	1/13 – 1/19	Extract, Transform, Load (ETL) Process		1
3	1/20 – 1/26	ETL in Azure Data Factory		1, 2
4	1/27 – 2/2	ETL in SAS Enterprise Miner	<i>Tutorial 1 due by 2/2</i>	1, 2
5	2/3 – 2/9	ETL with Pentaho		1, 2
6	2/10 – 2/16	<i>Review of ETL</i>	<i>Presentation 1 on 2/13</i>	1, 2
7	2/17 – 2/23	Data Warehousing Concepts		1
8	2/24 – 3/1	ETL and Data Warehousing		1, 2
9	3/2 – 3/8	Spring Break		
10	3/9 – 3/15	Data Warehousing with Azure Synapse Analytics	<i>Tutorial 2 due by 3/15</i>	1, 2
11	3/16 – 3/22	Working with BigQuery		1, 2
12	3/23 – 3/29	<i>Review of Data Warehousing</i>	<i>Presentation 2 on 3/26</i>	1, 2
13	3/30 – 4/5	Big Data and Distributed Databases		1
14	4/6 – 4/12	Hadoop Ecosystem and MapReduce	<i>Tutorial 3 due by 4/12</i>	1, 2
15	4/13 – 4/19	NoSQL in MongoDB		1, 2
16	4/20 – 4/26	<i>Review of Distributed Databases & Big Data</i>		1
17	4/27 – 5/2		<i>Presentation 3 on 4/27</i>	1, 2