

Course Title: Information Management
Course Number : CSCI-7810

General Information

Meeting Times and Location

Monday and Wednesday 1:00 pm-2:15 pm
Hull McKnight GA Cyber Center 2301

Instructor

Dr. Ahmed Aleroud

Associate Professor, School of Computer and Cyber Sciences

Email: aaleroud@augusta.edu

Phone: (706) 292-773

Office: Summerville Campus, University Hall, Room 107

Office Hours and Communications

By appointment Microsoft teams, office visits, etc.

I check my email daily and generally will respond to questions in the evening hours. I am available before class for questions and help. Outside of that timeframe, please email me to schedule an appointment.

Description

This course is specifically designed to support the range of complex data challenges Data Practitioners face today from optimizing relational database systems to managing data. Students will get an overview of relational database management systems, SQL programming, and emerging Big Data NoSQL database technologies.

Course Learning Objectives

Upon completion, students will understand:

- the fundamentals of relational and big data database systems
- key concepts related to database design and administration
- how to acquire and store both structured and unstructured data
- how to write SQL queries to transform and process data
- fundamentals of data warehouse design for relational and big data systems
- understand pros and cons of the different database options

Course Materials

- Lemahieu, Wilfried, Seppe vanden Broucke, and Bart Baesens. Principles of database management: the practical guide to storing, managing and Analyzing big and small Data. Cambridge University Press, 2018. You can order from Amazon
- Elmasri, Ramez, and Shamkant B. Navathe. "Fundamentals of Database Systems 7 th Edition." (2017). E-text from <https://www.pearson.com/en-us/subject-catalog/p/fundamentals-of-database-systems/P200000003546/9780137502523>
- <https://learning.oreilly.com/home/> (Use your AU credentials to login)
- Perkins, Luc, Eric Redmond, and Jim Wilson. *Seven databases in seven weeks: a guide to modern databases and the NoSQL movement*. Pragmatic Bookshelf, 2018.
- <https://learning.oreilly.com/home/> read some data engineering books

Recommended Software, website, tools,

- <https://www.pdbmbook.com/playground>
- pyspark
<https://spark.apache.org/docs/latest/api/python/#:~:text=PySpark%20is%20an%20interface%20for,data%20in%20a%20distributed%20environment.>
- Anaconda Python <https://www.anaconda.com/download/>
- MongoDB
- Google Colab
- Others as needed =

Course Schedule

Use the following google sheet to check the recent course schedule and expectations

<https://docs.google.com/spreadsheets/d/1ABnexEzeGz-xHcl7syYoEWcw4MXGzq6v/edit?usp=sharing&oid=105138816158983674997&rtpof=true&sd=true>

Course Format and Assignments

The students will complete several homework's, weekly reading, and at least 3 presentations, a midterm exam, and a final exam. This course incorporates a variety technology to engage students and prepare them for challenges they may encounter in the workplace. Topics include relational and big data systems, writing SQL No SQL queries, and using distributed/parallel programming methods to optimize data processing.

Student is expected to pick 2 technologies and present them to other students. You are also expected to be a lead presenter for two research papers in the area.

Midterm and Final Exams:

The midterm and final exams will be administered face to face in class

Course Communication and Content

I will use D2I Provided by Augusta University as the primary means for distributing course content, feedback, and communication.

Grading Criteria

Students are expected to participate in class discussions.

Course work	Grade Distribution
Assignments	30%
Presentations	20%
Midterm Exam	25%
Final Exam	25%

Final Grade will be computed as follows:

90-100%	A
80-89%	B
70-79%	C

Attendance Policy

Each student is expected to attend class regularly, to arrive on time, and to remain until class is dismissed. If the student has been absent for more than the equivalent of 10 percent of class time, regardless of cause, then the professor may withdraw the student from the class for excessive absences. It is important to note that the instructor may—or may not—withdraw a student from class based upon attendance. In any case, a student should not assume that the instructor has initiated the withdrawal form. A student not withdrawn from a course who stops attending class (or who never attends class) is subject to receiving a grade of WF or F for the course. Please reference the Class Attendance Section in the Augusta University Catalog for further details.

Late Assignments & Missed Tests

- In general, I do not accept late work unless a true emergency arises.
- Make-up tests will not be given unless Augusta University policy requires it, the absence was due to Official University business, or one of the following excused absences: jury/military duty, medical excuse (note from doctor required), or death of an immediate family member. Documentation will be required. Please inform me as early as possible if a test will be missed. Tests must be made up as soon as possible.
- The course schedule posted to D2L will have the latest information and will contain any updates or modifications as a result of AU modifications. The posted schedule will have precedence and priority if there are any questions

Code of Conduct

Please review the Student Code of Conduct in the Augusta University Student Manual. It outlines your responsibilities as students and those of a faculty member to maintain the integrity of the learning environment. As outlined in the handbook, disorderly or distracting conduct may result in expulsion from the class. Moreover, any form of academic dishonesty will not be tolerated. Should you be caught cheating or plagiarizing the work of another the procedures as outlined in the handbook and catalog will be followed.

The classroom should be considered a place of business – academic business. Distracting behavior such as uninvited casual talk among students, use of cell phones, watching videos, sleeping, or inappropriate behavior toward fellow students or faculty will not be tolerated any more than they would be in a business setting. Faculty have the right and the responsibility to maintain a classroom free of such distractions. Students who persist in such behavior may be asked to leave the class and may be counted

absent for the session. Persistent disruptive behavior may result in the faculty member's withdrawing the student from the course.

Academic Accommodations

Augusta University will make reasonable academic accommodations for students with documented disabilities. Students should contact Testing and Disability Services (Galloway Hall; 706.737.1469; www.augusta.edu/tds/) as soon as possible for more information and/or to initiate the process for accessing academic accommodations.

"Augusta University believes academically qualified individuals with disabilities should have equal opportunity and access to a quality education. We are actively involved in fostering an environment that encourages full participation by students with disabilities in every segment of the University.

The Office of Disability Services was established to help ensure an accessible and positive college experience for students with disabilities. Our Office [Testing and Disability Services] provides a variety of services and accommodations to meet the needs of disability related concerns in accordance with the Rehabilitation Act of 1973 as amended, the Americans with Disabilities Act of 1990, and Board of Regents' policies" <https://www.augusta.edu/tds/disabilityservices.php>

Accommodations for students with disabilities are made on an individual basis. Students must register and request services from the Director of Testing and Disability Services. In order to receive services, students must provide current documentation of their disability from a qualified health professional.

Appointments can be made by calling The Office of Testing and Disability Services at (706) 737-1469 or by visiting their office located on the first floor of Galloway Hall.

It is the student's responsibility for initiating an appointment and following Augusta University's Accommodation Procedures found at: <https://www.augusta.edu/tds/accommodation.php>

If the student does not obtain academic accommodations through The Office of Testing and Disability Services, it is assumed no special accommodations or modifications will be necessary to meet the requirements of this course.

Academic standards and procedures can also be found in the AU Student Manual (section 5 – 2018/19 Manual) - which can be found on the AU Student life website at <https://www.augusta.edu/student-affairs/> In an academic community, honesty and integrity must prevail if the work done and the honors awarded are to receive their respect. The erosion of honesty is the academic community's ultimate loss. The responsibility for the practice and preservation of honesty must be equally assumed by all of its members. Any type of dishonesty in securing those credentials therefore invites serious sanctions, up to and including, a "WF" or "F" in the course, and expulsion from the institution. Please reference the http://catalog.augusta.edu/content.php?catoid=27&navoid=3332&hl=honesty&returnto=search#Academic_Honesty for further details and specific definitions of cheating and plagiarism.

Unethical behavior of students in any form is not acceptable and will not be tolerated in the School for Computer and Cyber Sciences. Academic dishonesty – to include cheating on exams, plagiarism of the work of others, unapproved collaboration on graded work, and the like - will be dealt with immediately and with clear consequences. Depending on the nature and severity of the problem, a student who is guilty of any such violation may be: 1) withdrawn from the course with a grade of WF (counted as an F in the GPA); 2) given a grade of zero on the assignment; 3) given a grade of F in the course; or 4) otherwise penalized, at the discretion of the faculty member. Two occurrences of a WF grade for academic dishonesty can result in a student's being expelled from the University, per current University policy as described in the University Catalog. - HCB Professional Behavior Guidelines

Sharing of Instructor-generated Materials

The policy prohibits students from posting instructor-generated materials on external sites. The selling, sharing, publishing, presenting, or distributing of instructor-prepared course lecture notes, videos, audio recordings, or any other instructor-produced materials from any course for any commercial purpose is strictly prohibited unless explicit written permission is granted in advance by the course instructor. This includes posting any materials on websites such as Chegg, Course Hero, OneClass,

Stuvia, StuDocu and other similar sites. Unauthorized sale or commercial distribution of such material is a violation of the instructor's intellectual property and the privacy rights of students attending the class and is prohibited.

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"Augusta University ("AU") recognizes that academic honesty is essential to its academic function. The [AU academic honesty policy] following regulations protect the equity and validity of the University's grades and degrees, and help students develop ethical standards and attitudes appropriate to academic and professional life. Violations of academic honesty include, but are not limited to, cheating of all kinds, plagiarism, research misconduct, collusion, and false statements made to avoid negative academic consequences." -*from the AU Academic Honesty policy which can be found in the AU Policy Library at <https://www.augusta.edu/compliance/policyinfo/policies.php>*

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