COSC 5335 Database Security

Fall 2017

Monday, Wednesday and Friday   01:00 pm – 01:50 pm   AB1-204

Instructor: Dr. Khaled Rabieh, Assistant Professor
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Office hours: Monday, Wednesday 10:00 to 11:00 am

Prerequisite
DFSC 5310 or departmental approval. Credit 3

Course Description
Database security has an immense impact on the design of today's electronic information systems. This course will provide an overview of database security concepts and techniques and discuss new directions of database security in the context of a connected commercial world. This course provides the information needed to develop, deploy and maintain a secure database solution. It exposes the pitfalls of database design, their means of identification and the methods of exploiting vulnerabilities.

Course goals
At the end of this course, the student should be able to:
- Understand how a relational database is structured, designed, implemented and used.
- Understand potential flaws in commonly used database systems and how those flaws might be mitigated.
- Understand and develop appropriate documentation to support database security.
- Describe commonly used approaches to secure databases and protect the stored data.

Course Contents
- The Basic concepts of database management systems and database modeling
- The relational database model
- SQL Data Definition Language (DDL) and Data Manipulation Language (DML) commands
- Oracle PL/SQL, Stored Procedures and Triggers
- Common and advanced attacks against databases
- Best practices and methodologies to defend the database against common attacks
- Enforcing access controls and policies to various databases

*Above class contents may be adjusted according to specific needs in the class.

Reference Books

Title	Author(s)	ISBN	Publisher
How To Secure and Audit Oracle 10g and 11g	Ron Ben-Natan	978-1420084122	Auerbach,2009
Database Security 1st Edition	Basta/Zgola	978-143553906	Cengage, 2015

Grading Criteria
This course is primarily a reading and discussion course with practical activities taking place individually. Your grades will be determined according to the following:

Readings & Presentations	40%
Project(s)	20%
Assignments	10%
Discussions	20%
Total	**100%**

Course letter grades will be assigned according to the following:

Total	Grade
>= 90%	A
80% <= TOTAL < 90%	B
70% <= TOTAL < 80%	C
60% <= TOTAL < 70%	D
TOTAL < 60%	F

Late Policy

Penalty for late work is 10% of the worth per calendar day late, unless an extension (for a valid reason) has been granted in advance. The maximum period to deliver late work is two days. After two days, no late work will be accepted.

Academic Dishonesty

All students are expected to engage in all academic pursuits in a manner that is above reproach. Students are expected to maintain complete honesty and integrity in the academic experiences both in and out of the classroom. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The University and its official representatives may initiate disciplinary proceedings against a student accused of any form of academic dishonesty including, but not limited to, cheating on an examination or other academic work which is to be submitted, plagiarism, collusion and the abuse of resource materials.

Students should be aware, specifically, that the instructor reviews all programming assignments and exercises for evidence of collaborative work. While it is sometimes appropriate and encouraged for students to discuss concepts and ideas, it is never permissible to collaboratively work on coded examples, to share or swap completed or partially completed programming assignments. In addition, it is not permitted for students to use code examples provided by the instructor without appropriate documentation/ citation of the use of that code.

Attendance Requirements

Students are expected to attend all class sessions. You are responsible for all material covered in every class, regardless of whether you attended or not. It is your responsibility to obtain notes, assignments, etc., from fellow class members if you miss a class.

Classroom Conduct

Students will refrain from behavior in the classroom that intentionally or unintentionally disrupts the learning process and, thus, impedes the mission of the university. Cellular telephones and pagers must be turned off before class begins. Students are prohibited from eating in class, using tobacco products, making offensive remarks, reading newspapers, sleeping, talking at inappropriate times, wearing inappropriate clothing, or engaging in any other form of distraction. Inappropriate behavior in the classroom shall result in a directive to leave class. Students who are especially disruptive also may be reported to the Dean of Students for disciplinary action in accordance with university policy.

Visitors in the Classroom

Unannounced visitors to class must present a current, official SHSU identification card to be permitted in the classroom. They must not present a disruption to the class by their attendance. If the visitor is not a registered student, it is at the instructor's discretion whether or not the visitor will be allowed to remain in the classroom.

Students with Disabilities Policy:

It is the policy of Sam Houston State University that individuals otherwise qualified shall not be excluded, solely by reason of their disability, from participation in any academic program of the university. Further, they shall not be denied the benefits of these programs nor shall they be subjected to discrimination. Students with disabilities that might affect their academic performance should register with the Office of Services for Students with Disabilities located in the Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786, and e-mail disability@shsu.edu). They should then make arrangements with their individual instructors so that appropriate strategies can be considered and helpful procedures can be developed to ensure that participation and achievement opportunities are not impaired.

SHSU adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with disabilities. If you have a disability that may affect adversely your work in this class, then I

encourage you to register with the SHSU Services for Students with Disabilities and to talk with me about how I can best help you. All disclosures of disabilities will be kept strictly confidential. NOTE: No accommodation can be made until you register with the Services for Students with Disabilities. For detailed procedures to request disability services, see: http://www.shsu.edu/dept/disability/procedures-to-request-services.html

Any student with a disability that affects his/her academic performance should contact the Office of Services for Students with Disabilities in the SHSU Lee Drain Annex (telephone 936-294-3512, TDD 936-294-3786) to request accommodations.