



Course CS6348
Professor Murat Kantarcioglu
Term Spring 2016
Meetings Friday: 10:00am-12:45pm @ ECSN 2.110

Professor's Contact Information

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Office Hours Fridays 9am-10am and 3pm-4pm
Other Information All announcements will be made in class, course web page and/or via UT Dallas email.

General Course Information

Pre-requisites, Co-requisites, & other restrictions CS 5343 and knowledge of SQL

Course Description

The course will teach principles, technologies, tools and trends for data and applications security. Topics to be covered include: confidentiality, privacy and trust management; secure databases; secure distributed systems, data privacy.

Learning Outcomes

- Ability to understand and use basic cryptographic techniques and tools for data security
- Ability to understand and use discretionary and mandatory access controls
- Ability to understand and use integrity policies
- Ability to understand and use database access control tools
- Ability to understand and use defensive tools against common data management system cyber attacks
- Ability to understand and use basic privacy-enhancing technologies

Required Texts & Materials

[Computer Security: Art and Science](#) by Matt Bishop Publisher: 13th Printing Addison-Wesley Professional (ISBN-10: 0-201-44099-7, ISBN-13: 978-0-201-44099-7)

Suggested Texts, Readings, & Materials

Database and Applications Security: Integrating Information Security and Data Management by Bhavani Thuraisingham Publisher: Auerbach Publications; first edition ISBN-10: 0849322243, ISBN-13: 978-0849322242

Please check course web page for additional reading material.
<http://www.utdallas.edu/~muratk/courses/dbsec16s.htm>

Assignments & Academic Calendar

01.15.16	<ul style="list-style-type: none">• Overview of Data Security• Access control basics• Reading: Bishop Chapter 2 & 13
01.22.16	<ul style="list-style-type: none">• Access Control Foundations• Reading: Bishop Chapter 3
01.29.16	<ul style="list-style-type: none">• Access control models• Reading: Bishop Chapter 4
02.05.16	<ul style="list-style-type: none">• Access control models cont.• Reading: Bishop Chapter 5
02.12.16	<ul style="list-style-type: none">• Integrity Models• Reading: Bishop Chapter 6
02.19.16	<ul style="list-style-type: none">• Hybrid Models• Reading: Bishop Chapter 7• Homework 1 is available on elearning.• Project Description is available on elearning
02.26.16	<ul style="list-style-type: none">• Basic Cryptography Overview• Authentication• Reading: Bishop Chapter 9 & 12
03.04.16	<ul style="list-style-type: none">• Database Security• Encrypted Data storage in Databases• Reading: Please read the following overview paper (pdf)• Reading: Please read the following tutorial from Microsoft Research (pdf)• Homework 2 is available on elearning.
03.11.16	<ul style="list-style-type: none">• Access control in distributed systems• Reading: Please read the following overview paper
03.18.16	<ul style="list-style-type: none">• Spring Break !!!
03.25.16	<ul style="list-style-type: none">• Midterm !!!• Homework 3 is available on elearning.
04.01.16	<ul style="list-style-type: none">• SQL and Code injection attacks• Reading: Please see the tutorial from Oracle.
04.08.16	<ul style="list-style-type: none">• Introduction to Data Privacy• Reading: K-anonymity (pdf), l-diversity (pdf), differential-privacy (pdf), privacy-preserving distributed data mining (pdf)• Homework 4 is available on elearning.

04.15.16	<ul style="list-style-type: none"> • Introduction to Data Privacy cont.
04.22.16	<ul style="list-style-type: none"> • Introduction to Data Privacy cont.
04.23.16	<ul style="list-style-type: none"> • Policy, legal ethics and compliance • Economics of data security and privacy • Reading: T.b.d. • Please note that we will have extra class on this day.
04.29.16	<ul style="list-style-type: none"> • FINAL exam will be administered during the last class. • To comply with university regulations, • I will schedule an additional class on April 23rd.

Course Policies

Grading (credit) Criteria	<p>Grading on a curve technique will be used.</p> <p>Homeworks % 16 (4 homeworks, each worth 5%) Project % 24 (Group project that may require programming) Midterm % 30 Final % 30</p>
Make-up Exams	No make-up exam will be given.
Extra Credit	None.
Late Work	Late submissions will not be graded.
Special Assignments	None.
Class Attendance	Strongly recommended.
Classroom Citizenship	Good classroom citizenship is expected.
Comet Creed	<p><i>This creed was voted on by the UT Dallas student body in 2014. It is a standard that Comets choose to live by and encourage others to do the same:</i></p> <p><i>“As a Comet, I pledge honesty, integrity, and service in all that I do.”</i></p>
UT Dallas Syllabus Policies and Procedures	<p><i>The information contained in the following link constitutes the University’s policies and procedures segment of the course syllabus.</i></p> <p><i>Please go to http://go.utdallas.edu/syllabus-policies for these policies.</i></p>

The descriptions and timelines contained in this syllabus are subject to change at the discretion of the Professor.