

# **SECURE E-COMMERCE**

## **CSCE 5560.001/004/008/600**

**Course Instructor:** Dr. Pradhumna Shrestha

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- Include CSCE 5560.001/004/008/600 in subject line
- Always use your official UNT email address

**Class Location/Time:**

**CSCE 5560.004 (Face-to-Face):** NTDP F285, TuTh 11:30 AM - 12:50 PM

**CSCE 5560.001/008/600 (Online):**

<https://unt.zoom.us/j/84515283570> TuTh 11:30 AM - 12:50 PM

**Office Hours:** Mo 11:30 AM-12:30 PM, Tu 1:30 PM-2:30 PM or via appointment

**Office Hours Zoom Link:** <https://unt.zoom.us/j/3251832551>

**Teaching Assistant:** Guru Sai Madupuri

**Email:** gurusaimadupuri@my.unt.edu

**Office Hours:** <https://unt.zoom.us/j/6686714597> Mondays 9 am-10:30 am, Fridays 9 am-10:30 am)

### **COURSE DESCRIPTION**

This course covers electronic commerce technology, models and issues, with emphasis on security. Supporting technology such as cryptography, digital signatures, certificates and public key infrastructure (PKI) are security-conscious programming for web-based applications are explored. Exposure is also given to interaction between technical issues and business, legal and ethical issues.

### **COURSE OUTCOMES**

1. Knowledge of an experience with secure web development, with exposure to at least three current technologies (such as XML, Perl, PHP, ASP, JSP, JavaScript, etc.).
2. Knowledge of how cryptography can be used to support confidentiality and integrity of electronic transmissions and transactions.
3. Knowledge of electronic transaction and payment systems.
4. Knowledge of Public Key Infrastructure (PKI) settings and trust models, with specific systems such as X.509 certificates and PGP's decentralized web of trust.
5. Familiarity with basic network and system security, and the ability to set up a typical electronic commerce setting of networks and hosts.
6. Familiarity with business, legal, and ethical issues related to electronic commerce, and the interaction of these issues with technical issues.

## REFERENCE TEXTBOOK

- E-Commerce 2015, 11th Edition, by Kenneth C. Laudon and Carol Traver, Prentice Hall, 2015. ISBN 978-0-133-50716-4.
- Secure Electronic Commerce: Building the Infrastructure for Digital Signatures and Encryption, 2nd Edition, by Warwick Ford and Michael S. Baum, Prentice Hall, 2001. ISBN 978-0-130-27276-8.
- PHP and MySQL Web Development, 4th Edition, by Luke Welling and Laura Thomson, Addison-Wesley, 2009. ISBN 978-0-672-32916-6.

**PRE-REQUISITES:** CSCE 3110

## GRADING

Attendance/Class Participation: 5%

Homework: 15%

Laboratory Exercises: 25%

MidTerm Exam: 15%

Final Project: 25%

Final Exam: 15%

## Notes:

## ATTENDANCE POLICY

Class attendance is regarded as an obligation as well as a privilege. All students are therefore expected to attend each class meeting. *A student who misses class is still responsible to find out what was discussed and to learn the material that was covered and obtain the homework that was assigned on the missed day.* The instructor is not responsible for re-teaching material missed by a student who did not attend class. Therefore, each student is accountable for and will be evaluated on *all* material covered in this course, regardless of attendance.

Attendance/Participation grades will be based on attendance, contribution to in-class discussions, and assessment of any in-class work. Disruptive behavior and unexcused absences deemed excessive will result in a lower attendance/participation grade.

### COVID-19 Impact on Attendance

While attendance is expected as outlined above, it is important for all of us to be mindful of the health and safety of everyone in our community, especially given concerns about COVID-19. Please contact me if you are unable to attend class because you are ill, or unable to attend class due to a related issue regarding COVID-19. It is important that you communicate with me prior to being absent so I may make a decision about accommodating your request to be excused from class.

If you are experiencing any symptoms of COVID-19 (<https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html>) please seek medical attention from the Student Health and Wellness Center (940-565-2333 or [askSHWC@unt.edu](mailto:askSHWC@unt.edu)) or your health care provider **PRIOR** to coming to campus. UNT also requires you to contact the UNT COVID Hotline at 844-366-5892 or [COVID@unt.edu](mailto:COVID@unt.edu) for guidance on actions to take due to symptoms, pending or positive test results, or potential exposure. While attendance is an important part of

succeeding in this class, your own health, and those of others in the community, is more important.

### Class Materials for Remote Instruction

Remote instruction may be necessary if community health conditions change or you need to self-isolate or quarantine due to COVID-19. Students will need access to a computer (laptop or desktop) with a webcam, a speaker, a microphone and reliable internet connection to participate in fully remote portions of the class. Additional required classroom materials for remote learning will be announced when relevant. Information on how to be successful in a remote learning environment can be found at <https://online.unt.edu/learn>.

Students enrolled in the remote section of the class are expected to have all these materials and equipment from the first day of the class.

### Statement on Face Covering

Face coverings are required in all UNT facilities. Students are expected to wear face coverings during this class. If you are unable to wear a face covering due to a disability, please contact the Office of Disability Access to request an accommodation. UNT face covering requirements are subject to change due to community health guidelines. Any changes will be communicated via the instructor.

### Class Recordings & Student Likenesses

Synchronous (live) sessions in this course will be recorded for students enrolled in this class section to refer to throughout the semester. Class recordings are the intellectual property of the university or instructor and are reserved for use only by students in this class and only for educational purposes. Students may not post or otherwise share the recordings outside the class, or outside the Canvas Learning Management System, in any form. Failing to follow this restriction is a violation of the UNT Code of Student Conduct and could lead to disciplinary action.

## **HOMEWORK**

Homework will be assigned based on material from the lectures. These assignments are meant for you to become familiar with the course material and this practice will aid you in mastering the concepts on the labs and exams.

## **LABORATORY EXERCISES**

Students will complete several in-depth hands-on laboratory projects during the semester intended to give a more thorough view of electronic commerce and security. More details about the labs will be made at a later date.

## **LATE SUBMISSION POLICY**

The same late submission policies apply to both homework and laboratory activities. If you miss the submission deadline, you will be penalized 25% of the grade for every day you are late. For example, if the deadline is on Friday 11.59 PM and you submit on Saturday, you will lose 25% points, if you submit on Sunday you lose 50% points, and so on.

## **MIDTERM EXAM**

There will be a midterm examination given in this course. The tentative date of this exam will be 03/04. The confirmed date and the details of the test will be announced in class at least one week prior to the date of the exam.

## **FINAL PROJECT**

There will be a final project due in this course. Your team will also be required to make a live demonstration of the project, highlighting how each area (such as security) was addressed. More details about this project will be made available at a later date.

## **FINAL EXAM**

There will be a final exam on **Tuesday, April 27, 10:30 AM-12:30 PM**. All students are expected to take the final exam during the scheduled time period.

## **GRADING POLICY**

Grades will be posted on Canvas throughout the semester to provide an ongoing assessment of student progress, though final assessment will be measured using the weighted average above.

Also, once a grade is assigned on Canvas, students have two weeks to dispute the grade. The proper channel for grade disputes is to first go to the original grader (such as the TA or IA) in an attempt to resolve the issue. If, however, a resolution cannot be reached between the student and the grader, the student shall then go to the instructor who will have the final say on the grade.

## **STUDENT RESPONSIBILITY**

Students are responsible for submitting the *correct* assignments (i.e., uploading the proper files) for each applicable assignment submission on Canvas. When an incorrect assignment is submitted to Canvas, students wanting to resubmit with the correct file(s) *after the due date has passed* will have their assignment assessed a 30% reduction penalty. Proof must be given (i.e., timestamp for the file on the CSE machines) that the assignment was completed on time. If you have any questions or concerns about your submission, please work with your instructor or TA/IA for this course to ensure the correct file(s) is/are submitted.

## **ADA STATEMENT**

The University of North Texas makes reasonable academic accommodation for students with disabilities. Students seeking accommodation must first register with the Office of Disability Accommodation (ODA) to verify their eligibility. If a disability is verified, the ODA will provide you with an accommodation letter to be delivered to faculty to begin a private discussion regarding your specific needs in a course. You may request accommodations at any time, however, ODA notices of accommodation should be provided as early as possible in the semester to avoid any delay in implementation. Note that students must obtain a new letter of accommodation for every semester and must meet with each faculty member prior to implementation in each class. For additional information, see the Office of Disability Accommodation website at <http://disability.unt.edu>. You may also contact them by phone at (940) 565-4323.

## **ACCEPTABLE STUDENT BEHAVIOR**

Student behavior that interferes with an instructor’s ability to conduct a class or other students’ opportunity to learn is unacceptable and disruptive and will not be tolerated in any instructional forum at UNT. Students engaging in unacceptable behavior will be directed to leave the classroom and the instructor may refer the student to the Dean of Students to consider whether the student’s conduct violated the Code of Student Conduct. The university’s expectations for student conduct apply to all instructional forums, including university and electronic classroom, labs, discussion groups, field trips, etc. The Code of Student Conduct can be found at <http://deanofstudents.unt.edu>.

**ACADEMIC DISHONESTY**

This course follows the Department of Computer Science and Engineering *Cheating Policy*. Specifically, students caught cheating or plagiarizing will receive a “0” for that particular assignment or exam for the first offense. Additionally, the incident may be reported to the Dean of Students, who may impose a further penalty. A second instance of cheating in this class will result in a grade of F in the class, and referral to the Department Chairperson and Dean of Engineering, whereby a dismissal hearing may be initiated by the Dean of Engineering.

Students are responsible for being familiar with the university standard for academic integrity. In the case that the above description or any in-class discussion of appropriate and inappropriate collaboration do not answer all of your questions, please meet with your instructor and look at the university Student Rights and Responsibilities web page.

**TENTATIVE SCHEDULE**

Date	Material Covered
01/11 – 01/15	Introduction, Infrastructure
01/18 – 01/22	Infrastructure
01/25 – 01/29	Threats & Vulnerabilities
02/01 – 02/05	Threats & Vulnerabilities
02/08 – 02/12	Security Fundamentals
02/15 – 02/19	Security Fundamentals
02/22 – 02/26	Security Fundamentals
03/01 – 03/05	Review, Midterm Exam
03/08 – 03/12	Payment Systems
03/15 – 03/19	Shopping Cart, Databases
03/22 – 03/26	Design & Deployment, Advertising & Business
03/29 – 04/02	Legal, Ethical, & Tax Issues
04/05 – 04/09	Project Presentations
04/12 – 04/16	Project Presentations
04/19 – 04/23	Project Presentations, Review

04/27

Final Exam