

Fall 2025, CS 433/533 - Web Security

CRNs: 18821, 18822, 18823 (433) and 18824, 18825, 18826 (533)

Instructor: [Kritika Garg](#)

Class Homepage: <https://github.com/kritikagarg/cs533-f25>

Class Timings: *This is an asynchronous course offered online through Canvas. This course does not have any required lecture times.*

Office Hours:

Fridays, 12-2pm via Zoom or In-person (ECSB 3102) or email for an appointment.

Note: students will be placed into the waiting room if I am already meeting with another student.

Course Description

The goal of this course is to review common web security vulnerabilities and exploits, along with the defenses designed to counter them. We will explore the ongoing tension between the web as a “simple document reader” and the web as an “application environment.” As the web ecosystem grows in functionality, so too do its vulnerabilities.

What You'll Learn

By the end of this course, you'll understand the core principles of web security and how different attacks and defenses work. Topics include the browser security model, web application vulnerabilities, injection, denial-of-service, TLS attacks, privacy, fingerprinting, the same-origin policy, cross-site scripting, authentication, JavaScript security, emerging threats, defense-in-depth, writing secure code, web archiving, and rehosting.

You'll also get hands-on experience with key technologies such as Git and GitHub, DOM and JavaScript, the command line interface (CLI), Node.js, and utilize platforms like X (Twitter) and YouTube.

Prerequisites

- Unix/Linux
- Web
- HTML

Grading

Your grade for this course will be based on **seven assignments**, each worth **15 points**. Additional points may be earned through class participation.

Late assignments will lose 3 points for every 24 hours past the deadline unless you make prior arrangements with the instructor. Readings and assignment details will be released throughout the semester on a rolling basis.

Graduate students:

A = 100-94

A- = 93-90

B+ = 89-88

B = 87-84

B- = 83-80

C+ = 79-78

C = 77-74

C- = 73-70

F = 69-00

Undergraduate students:

A = 100-92

A- = 91-90

B+ = 89-87

B = 86-82

B- = 81-80

C+ = 79-77

C = 77-72

C- = 71-70

D+ = 69-67

D = 66-62

D- = 61-60

F = 59-00

Course Policies

Email/Canvas

Each student must check the class Canvas site and email regularly. You should use our class Canvas Discussion Board to ask and answer general course-related questions. I will use Canvas Announcements to notify you about important updates (assignment deadline changes, office hours cancellations, etc.).

Attendance Policy

Attendance is encouraged. The classes are recorded and the links shared to the class on Canvas. You are responsible for everything that is said, discussed, and presented during class.

Seeking Help

The course Canvas site should be your first reference for questions about the class. If you have questions about course requirements or materials, post questions using the class Canvas Discussion Board. For extra help, attend office hours.

Make-up Work

Make-ups for graded activities are possible only with a valid written medical or university excuse. It is the student's responsibility to give the instructor the written excuse and to arrange for any makeup work to be done. A makeup exam may be different (and possibly more difficult) than the regularly scheduled exam.

Disability Services

In compliance with PL94-142 and more recent federal legislation affirming the rights of disabled individuals, provisions will be made for students with special needs on an individual basis. The student must have been identified as having special needs by the university and an appropriate letter must be provided to the course instructor. Provision will be made based upon written guidelines from the University's [Office of Educational Accessibility](#). All students are expected to fulfill all course requirements.

Students are encouraged to self-disclose disabilities that have been verified by the Office of Educational Accessibility by providing Accommodation Letters to their instructors early in the semester in order to start receiving accommodations. Accommodations will not be made until the Accommodation Letters are provided to instructors each semester.

ODU Honor Code

Please familiarize yourself with the ODU Honor Code:

<https://www.odu.edu/about/monarchcitizenship>

In particular, review the resources on plagiarism and academic integrity:

<https://graduate.cs.odu.edu/resources/academic-integrity/>

The following statements apply to this class and are drawn from:

<https://odu.edu/facultystaff/teaching/conduct-integrity>

Old Dominion University is committed to students' personal and academic success. In order to achieve this vision, students, faculty, and staff work together to create an environment that provides the best opportunity for academic inquiry and learning. All students must be honest and forthright in their academic studies. Your work in this course and classroom behavior must align with the expectations outlined in the Code of Student Conduct, which can be found at www.odu.edu/oscai. The following behaviors along with classroom disruptions violate this policy, corrupt the educational process, and will not be tolerated.

- **Cheating:** Using unauthorized assistance, materials, study aids, or other information in any academic exercise.
- **Plagiarism:** Using someone else's language, ideas, or other original material without acknowledging its source in any academic exercise.
- **Fabrication:** Inventing, altering or falsifying any data, citation or information in any academic exercise.
- **Facilitation:** Helping another student commit, or attempt to commit, any Academic Integrity violation, or failure to report suspected Academic Integrity violations to a faculty member.

Any evidence of an academic integrity violation (cheating) will result in a 0 grade for the assignment/exam, and the incident will be submitted to the Department of Computer Science for further review. Note that academic integrity violations can result in a permanent notation being placed on the student's transcript or even expulsion from the University. Evidence of cheating may include a student being unable to satisfactorily answer questions asked by the instructor about a submitted solution. Cheating includes not only receiving unauthorized assistance, but also giving unauthorized assistance.

Statement from ODU Counseling Services

ODU's [Office of Counseling Services](#) (OCS, 1526 Webb University Center) is a university agency with competent, diverse, and multidisciplinary professional staff. We are committed to supporting the emotional well-being, social development, and academic progress of all students at Old Dominion University.

College life can be a wonderful time of self-discovery, but for many, it is also a time when the awareness of mental health conditions increases. OCS services are available to assist with addressing mental health concerns that a student may be experiencing. You can learn more about the broad range of confidential mental health services available on campus via our website at <https://odu.edu/counselingservices>. All services are free to ODU students.