# CSIT 5312 – 001 Web Security

**Fall 2020**

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STEM Building 312 O

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<th><strong>PREREQUISITE:</strong></th>
<th>CSIT 4355 or CSCI 4347; or Instructor Permission. CSCI 5362 is recommended. Must have a grade of C or better in each prerequisite course.</th>
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| **CLASS INFO:**   | Meeting time: 2:00 p.m. – 3:15 p.m. Tuesday, Thursday  
Location: STEM Building 405 |
| **OFFICE HOURS:** | 10:00 a.m. – 12:00 p.m. Monday, Wednesday (ZOOM)  
12:30 p.m. – 1:30 p.m. Tuesday, Thursday (ZOOM)  
10:00 p.m. – 12:00 p.m. Friday (ZOOM)  
Or By Appointment via Email.  

**If you need to meet me face-to-face, please make an appointment with me via email at least 24 hours in advance.** |
| **FACE COVERINGS/SOCIAL DISTANCING** | Masks (cloth face coverings) must be worn over the nose and mouth at all times when attending this class face-to-face and appropriate physical distancing must be observed. Students not wearing a mask and/or not observing appropriate physical distancing will be asked to leave the class. All incidents of not wearing a mask and/or not observing appropriate physical distancing will be reported to the Office of Student Rights and Responsibilities. Students who are reported for multiple infractions of not wearing a mask and/or not observing appropriate physical distancing may be subject to disciplinary actions.  


**COURSE DESCRIPTION:** Fundamental coverage of issues and techniques in developing secure web-based applications; related topics such as network security, web server security, application-level security, and web database security.

**COURSE INTENT:** Study and practice of fundamental techniques in developing secure web-based applications, including vulnerability of web-based applications. Learn and apply principles of cybersecurity to protect applications from attacks. Address advanced cybersecurity topics such as web attacks and defense, e-commerce security, and collaborative web-based applications. Complete a research paper on an instructor-approved topic.


**EXAMINATIONS:** (40% of the course grade) – The final exam consists of a final research paper and a written test:

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<th>Component</th>
<th>Weight</th>
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<tr>
<td>Final research paper</td>
<td>25%</td>
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<td>Final Exam – Comprehensive</td>
<td>15%</td>
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**EXAM SCHEDULE (Tentative except for the final exam)**

- Final research paper due: 5:00 pm, Tuesday, December 1
- Final (fixed schedule)
  - Thursday, December 10, 1:30 p.m. – 3:00 p.m.
  - Remote*

**Final exam schedule:** [http://www.sfasu.edu/registrar/194.asp](http://www.sfasu.edu/registrar/194.asp)

**NOTE:** There are no exemptions from the final examination and no changes in taking the final examination. Check the final exam time. **If the final exam time is a problem, you need to drop this course.**

* If the final exam is scheduled to be in the livestream mode, you might be required to turn on your video camera during the final exam. Be prepared to do so.
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<th>ASSIGNMENTS:</th>
<th>(60% of the course grade)</th>
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<td>Class assignments (labs, homework assignments, and research projects) will total 60% of the course grade. Class assignments will be of unequal weight. Some of the assignments may be required to be completed in class. Not all class assignments will be graded. You may not make up in-class assignments. Pop quizzes will be given in class.</td>
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<td>ATTENDANCE:</td>
<td>Attendance and constructive class participation – expected</td>
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<td>This class is offered as “face-to-face/livestream remote” and students can choose to attend the class either face-to-face or livestream remotely. You are allowed to change your choice from “livestream remote” to “face-to-face” very 4 weeks, but you can change from “face-to-face” to “livestream remotely” anytime, although it is preferable to make the change every 4 weeks.</td>
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<td>If you choose the “livestream remote” option, you are still required to attend the class at the specified class time via ZOOM and periodic attendance checks might be used in the ZOOM meetings to verify your presence.</td>
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<td>EDUCATIONAL OBJECTIVES:</td>
<td>Upon successful completion of the course, students should be able to:</td>
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<td>1. Demonstrate an understanding of security-related issues in Web-based systems and applications.</td>
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<td>2. Demonstrate an understanding of the fundamental security components of a computer system.</td>
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<td>3. Be able to evaluate a Web-based system with respect to its security requirements.</td>
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<td>4. Demonstrate an understanding of the process of developing secure networked systems.</td>
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<td>5. Demonstrate an understanding of the fundamental mechanisms of securing a Web-based system.</td>
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<td>6. Be able to implement security mechanisms to secure a Web-based application.</td>
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<td>7. Be able to evaluate security issues and common controls in electronic commerce systems</td>
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CONTENT: The following topics with estimated hours spent on each are listed below:

- Introduction to Web-based security (6)
- Proxy Servers, Firewalls, NAT (9)
- Internet Security Protocols (12)
- Database Security. (6)
- Electronic Payment Systems and coding (6)
- Exams (plus final). (6)

PROGRAM LEARNING OUTCOMES: Program learning outcomes define the knowledge, skills, and abilities students are expected to demonstrate upon completion of an academic program. These learning outcomes are regularly assessed to determine student learning and to evaluate overall program effectiveness.

- Students majoring in the Department of Computer Science may access program learning outcomes at http://www.sfasu.edu/academics/colleges/sciences-math/computer-science/about/accreditations

CLASS INFORMATION AND POLICIES

Attendance: Attendance may be taken into consideration for your final grade. If you come to class, you are expected to be present and awake the entire class period unless you have been given permission to leave early. If you are absent from class, please make sure to get notes from a classmate. There will be no smoking, no chewing of tobacco, no eating or drinking, no bare feet, and no cell phone use during class. Cell phones must be turned off or in the silence mode during class. No disruptive behavior including offensive language will be tolerated in a computer science facility or related activity. Such behavior may result in administrative removal from class. Only students officially registered for the course and approved assistants may attend class. Please do not walk across the front of the room after the class has started. Students entering the classroom after the lecture has started should take a seat in the back of the room.

Examination Policy: All class examinations are considered to be a major part of the course work upon which a large part of the course grade depends. There are NO make-up exams! Class examinations will be announced at least two classes prior to the examination. If you have a conflict with another university event, you must contact me well in advance of the examination. In case of an extreme emergency, contact me before the scheduled examination.
Failure to do so may result in an examination grade of zero. There are no exemptions for the final examination and no changes in taking the final examination. **All students must take the final exam. A zero on the final exam will result in an F in the course.** Check the final examination time. **If the final examination time is a problem, you need to drop this course.** The final exam will be conducted remotely (either take-home or remote livestream) due to COVID-19. If the final exam is conducted in a livestream mode, you must join the livestream on time in order to take the exam. **If you are more than 10 minutes late after the exam has started, you will NOT be permitted to join and take the final exam.**

**Assignment Policy:** All assignments are due at the announced time on the specified due date. Assignments will not be accepted late. If you have a conflict, please contact me in advance. You should turn in your homework assignments done neatly, clearly, and to the best of your ability. Follow all the instructions given. You will lose points for failure to follow instructions. **DO NOT slide any work under my office door or under the door to the Computer Science offices. PLEASE NOTE: You may be given assignments during the last five class days of the semester.**

**Software Policy:** Disciplinary action will be taken against individuals who perform unauthorized duplication of software or who are involved in the unauthorized use of duplicated software. Such action may make it impossible for you to successfully complete this course.

**Computer Laboratory Usage:** Students utilizing equipment in university computing laboratories are expected to read and abide by all posted policies for the laboratories. Please note that no children and no pets are permitted in university computing laboratories.

**Drop Policy (Univ.):** The official university add/drop policy is located at: http://www.sfasu.edu/policies/. If you have questions concerning registration, add/drop or the withdraw process, contact the Registrar at (936) 468-2501 or E-mail: REGISTRAR@SFASU.EDU. The Registrar is located on the 2nd floor of the Rusk building.

**Special Accommodation Requests:** To obtain disability related accommodations, alternate formats, and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.
Students with special accommodation requests have the responsibility to immediately initiate a meeting with the instructor to discuss how the special accommodations will be provided. Students who are aware of these special needs at the beginning of the semester must inform the instructor in person before the twelfth class day about any class activity, which will require special accommodations.

**Computer Account Policy:** All assignments that require the use of the University Computer must be done under the computer account that is assigned to you in this class. You should NOT do other class assignments in this account, and you should NOT do assignments from this class in other accounts. Failure to abide by the above statements will mean that you will receive a grade of F in this course.

**Academic Integrity:** Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit. All instances of academic dishonesty will be reported to Office of the Dean of the student’s major. This report shall be made part of the student’s record and shall remain on file with the Dean’s office for at least four years. Instances of academic dishonesty may also be reported to the University Committee on Academic Integrity. A student who wishes to appeal decisions related to academic integrity follows procedures outlined in University policy A-9.1. Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp

If in my judgment an instance of academic dishonesty on an examination has occurred, a grade of zero will be assigned as the examination grade and a minimum of one (1) letter grade will be lost in the course grade. A student found cheating on an examination may not drop the course. If in my judgment a student is found cheating on any part of a homework assignment or quiz, the student will receive negative points equal to the value of the entire homework/quiz. A negative grade will not be replaced by any possible bonus assignment. **I consider the person who did the work (homework, quiz, test) and the person copying the**
work as both cheating. A recurrence of this by any individual will result in a grade of F in the course. **DO YOUR OWN WORK!!!!! Do NOT show your code to other students!!!**

Withheld Grades Semester Grades Policy (A-54)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Acceptable Student Behavior
Classroom behavior should not interfere with the instructor’s ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy D-34.1). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic, or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.

Identification: Valid student I.D. cards must be presented on each examination day. (No I.D...No exam...Grade of zero)