

# IT 2700: Information Security (CRN 22265)

## Spring 2024 Syllabus

This course is an introductory course in computer related security. Students will review general security concepts and principles such as access control, cryptography, and intrusion detection. At the end of the course, students will be prepared to take the CompTIA Security+ exam. Taking the CompTIA Security+ exam by the end of the semester is required for this class.

**Prerequisites:** IT2400 with a C or better

**Course fee:** \$20, used to assist in maintaining CIT infrastructure.

**One section:**

- IT2700-01 TTh 12:00pm-1:15pm Smith Computer Ctr 107
  - Final exam **Thursday May 2 @ 11am** in SCC 107

**Instructor:**

- [Jay Sneddon](#)
- Office: North Burns 235
- Office hours: MW 11:00am-11:50am, TTh 10:30am-11:50am or by appointment. Zoom appointments may be arranged.

## Objectives

At the end of the course, students will be able to:	Outcome is Measured through
Pursue CompTIA Security+ certification ( <a href="#">IT PLO 1,2,3,4</a> )	Assignments, Quizzes, and Exams
Understand the fundamentals of Information Security ( <a href="#">IT PLO 1,2,3,4</a> )	Assignments, Quizzes, and Exams
Identify security vulnerabilities in networks, operating systems, and other computer-related environments ( <a href="#">IT PLO 1,2,3</a> )	Assignments, Quizzes, and Exams
Explain the legal and ethical aspects of computer security( <a href="#">IT PLO 4</a> )	Assignments, Quizzes, and Exams
Respond to active and passive security attacks ( <a href="#">IT PLO 1,2,3,4</a> )	Assignments, Quizzes, and Exams

## Resources

### REQUIRED

The readings will come from the course textbook, *CompTIA Security+, Get Certified Get Ahead SYO-601 Study Guide* by Darril Gibson, ISBN 979-8748708180. We also will frequently utilize Professor Messer's materials found at <https://www.professormesser.com>

Some other supplemental online resources may be used.

### Computer Resources

It is expected that you have regular access to a computer that is capable of running virtualization software such as Oracle's VirtualBox (which is open source, found at <https://www.virtualbox.org/>) or VMWare's Virtual Workstation (found at <https://www.vmware.com/products/workstation-player/workstation-player-evaluation.html/>) . We will be creating Linux and Windows virtual machines necessary to complete assignments in this class.

### Course Information

You are responsible for being informed regarding announcements, the schedule, and other resources posted on this website. Grading and assignments are managed at <https://utahtech.instructure.com>.

## Assignments and Exams

## Reading

The student is responsible for reading the material in the textbook. A reading schedule is provided with the class schedule on the course website. The student is expected to read the material before the class in which it is discussed. The book also includes material beyond what we will discuss in lecture, which you are encouraged to study on your own. Feel free to bring questions from the reading to lectures or to office hours.

## Assignments

Assignments will be graded based on completeness.

(See the Late Work policy for more information)

All assignments for the week are due Saturday night at 11:59pm, unless otherwise noted on Canvas.

## Exams

This course will have approximately four exams and one comprehensive final exam, along with weekly quizzes. Students that pass the CompTIA Security+ exam before the final exam date will automatically receive 100% for the final. A valid certificate must be shown the instructor.

## Security+ Certification

Security+ Certification is a significant resume enhancer, and is often required for employment at government, government contractors and other agencies where high security is enforced.

Security+ certification is required for this class. Certification is achieved by passing the CompTIA SYO-601 Security+ exam, which may be taken at the Utah Tech Testing Center. CompTIA offers a significant testing discount for students at <http://academic.comptiastore.com/>

Students that pass the CompTIA Security+ exam before the final exam date will automatically receive 100% for the final.

## Testing Out of the Class

Students may test out of the class with an A grade if they are able to become Security+ Certified before the *third* week of the semester. By becoming Security+ Certified you have proven that you have mastered this course material. If you are already Security+ Certified, the certification must be active (meaning passed within the last three years) and I must see a copy of your certificate.

Contact me if you have any questions about this.

## Grading

Assignments, quizzes and exams each contribute to your point total.

**Assignments/Labs = 30%**

**Quizzes = 10%**

**Exams = 30%**

**Comprehensive Final Exam = 20%**

**CompTIA Security+ Certification Exam (SYO-601) = 10%**

Here is the grading scale:  $\geq 94 = A$   $\geq 90 = A-$   $\geq 87 = B+$   $\geq 84 = B$   $\geq 80 = B-$   $\geq 77 = C+$   $\geq 74 = C$   $\geq 70 = C-$   $\geq 67 = D+$   $\geq 64 = D$   $< 64 = F$

## Tentative Topic Schedule

Week of	Readings	Quiz/Exam, Holidays
Jan 7	01 - Mastering Security Basics	
Jan 14	10 - Understanding Cryptography and PKI	Quiz (Ch 1)
Jan 21	10 - Understanding Cryptography and PKI	Quiz (Ch 10)

Jan 28	Review	<b>EXAM 1 (Ch 1,10)</b>
Feb 4	02 - Understanding Identity and Access Management	
Feb 11	03 - Exploring Network Technologies and Tools	Quiz (Ch 2)
Feb 18	04 - Securing Your Network	Quiz (Ch 3)
Feb 25	Review	Quiz (Ch 4), <b>EXAM 2 (Ch 2,3,4)</b>
Mar 3	05 - Securing Hosts and Data	
Mar 10	<b>Spring Break</b>	
Mar 17	06 - Comparing Threats, Vulnerabilities, and Common Attacks, 07 - Protecting Against Advanced Attacks	Quiz (Ch 5)
Mar 24	Review	<b>Exam 3 (Ch 5,6,7)</b> , Quiz (Ch 6, 7)
Mar 31	08 - Using Risk Management Tools, 09 - Implementing Controls to Protect Assets	
Apr 7	11 - Implementing Policies to Mitigate Risks	Quiz (Ch 9)
Apr 14	Review	<b>EXAM 4 (Ch 8,9,11)</b> , Quiz (Ch 11)
Apr 21	Comprehensive Review, Take CompTIA Security+ Exam	<b>CompTIA Security+ Exam</b>
May 2	Finals <b>Thursday May 2 @ 11am</b> in SCC 107	<b>CompTIA Exam must be passed before Finals!</b>

This schedule is subject to change.

## Course Policies

### ***Absences***

Students are responsible for material covered and announcements made in class. School-related absences may be made up only if prior arrangements are made. The class schedule on [Canvas](#) presented is approximate. The instructor reserves the right to modify the schedule according to class needs. Changes will be announced in class and posted to the website. Exams and quizzes cannot be made up unless arrangements are made *prior* to the scheduled time.

### ***Time***

Courses should require about 2 hours of outside work per lecture hour of class. This class will require about 6 hours of work per week on the part of the student to achieve a passing or higher grade. Be sure to evaluate your schedule before committing to this course.

### ***Late work***

Assignments are due on the date specified in the schedule. Late assignments and make up quizzes will be accepted but penalized 10% per day for five days after the due date, with the maximum penalty being 50% for late work. No work will be accepted after the final exam.

Excused absences are happily worked with. Conversely, arranging unexcused make up quizzes and exams is despised by the instructor. It makes me extremely grumpy and moody. The student groveling gets old, and I have heard nearly all of the excuses. That said, clever students come up with new whoppers that get added to an already lengthy list. I am much happier when that cleverness is channeled into coursework learning.

- I reserve the option to reject any late work regardless of the submission date.

### ***Cheating and Collaboration***

Limited collaboration with other students in the course is permitted and encouraged. Students may seek help learning concepts and developing programming skills from whatever sources they have available, and

are encouraged to do so. Collaboration on assignments, however, must be confined to course instructors, lab assistants, and other students in the course. See the section on cheating.

Cheating will not be tolerated, and will result in a failing grade for the students involved as well as possible disciplinary action from the college. Cheating includes, but is not limited to, turning in homework assignments that are not the student's own work. It is okay to seek help from others and from reference materials, but only if you learn the material. As a general rule, if you cannot delete your assignment, start over, and re-create it successfully without further help, then your homework is not considered your own work.

You are encouraged to work in groups while studying for tests, discussing class lectures, and helping each other identify errors in your homework solutions. If you are unsure if collaboration is appropriate, contact the instructor. Also, note exactly what you did. If your actions are determined to be inappropriate, the response will be much more favorable if you are honest and complete in your disclosure.

Where collaboration is permitted, each student must still create and type in his/her own solution. Any kind of copying and pasting is *not* okay. If you need help understanding concepts, get it from the instructor or fellow classmates, but never copy another's written work, either electronically or visually. It is a good idea to wait at least 30 minutes after any discussion to start your independent write-up. This will help you commit what you have learned to long-term memory as well as help to avoid crossing the line to cheating.

### ***Policy for Absences Related to College Functions***

Students may periodically miss classes for various college-related functions or military functions; these include athletics, club events, or to fulfill the requirements of a course or a program. Military functions may include: Reserve and Guard activation, activation, special assignments or other approved events or activities. These absences may often conflict with the instruction, assignments, and tests in this course.

Please provide an advanced written notification from your activity supervisor that explains the nature of the activity, and the anticipated time missed.

### ***Disruptive Behavior Policy/Classroom Expectations***

The classroom needs an atmosphere of learning and sharing. Class members need to feel safe and able to concentrate. Disruptive behavior that seriously detracts from this environment or inhibits the instructor's ability to conduct proper instruction will not be allowed. Disruptive behavior includes:

- Physical violence, verbal abuse, or harassment
- Intoxication or illegal drug use
- Use of profanity
- Failing to respect others when expressing their own viewpoints
- Talking while the instructor or another student is talking
- Constant questions or interruptions that interfere with classroom presentation

Disruptive class members will be warned. Continued misbehavior may lead to dismissal from class or the course. If necessary, Campus Police may be called.

### ***Disability/Accessibility Resources***

Utah Tech University welcomes all students and strives to make the learning experience accessible. If you are a student with a medical, psychological, or learning disability that may require accommodations for this course, you are encouraged to contact the Disability Resource Center (DRC) as soon as possible. You may request reasonable accommodations at any time during the semester; however, they are not retroactive. The DRC is located next door to the Testing Center in the North Plaza Building (435 652-7516, [drc@utahtech.edu](mailto:drc@utahtech.edu), [drcenter.utahtech.edu](http://drcenter.utahtech.edu)).

## **University Policies**

### **OTHER UNIVERSITY SUPPORT SERVICES**

NAME	SERVICE
<a href="#">Utah Tech Resources Overview</a>	Visit this site to see many student resources in one place.
<a href="#">Academic Advisement</a>	Helps students make decisions about their courses and degree path.
<a href="#">Academic Performance and Tutoring Center</a>	Offers one-on-one tutoring, study hall, and online tutoring to help students in many subjects ranging from Math to Foreign Language.

<a href="#">Booth Wellness Center</a>	Provides acute health care, referral services, health education, and brief mental health services.
<a href="#">Campus Life</a>	The Utah Tech University Student Association offers a variety of ways to get involved socially at the university.
<a href="#">Career Services</a>	Assists students with career exploration, choosing a major, writing a resume, and getting a job.
<a href="#">Center for Inclusion &amp; Belonging</a>	Increases diversity through scholarship opportunities, community outreach, academic advisement, and diversity club participation.
<a href="#">Dean of Students Office</a>	Serves as a primary advocate and support network for students. Assists students who are facing personal challenges, including financial, food, and housing concerns.
<a href="#">Disability Resource Center</a>	Serves students with disabilities by providing equal access to academic programs, non-academic activities, and campus facilities
<a href="#">DRC Accessibility</a>	A list of DRC services including exam accommodations, ASL interpreting, materials in alternative format, and more.
<a href="#">Help Desk</a>	Provides assistance for Canvas, Student Email, Student Services, Trailblazers wireless configuration, laptop assistance, and any other technical troubleshooting you may need help with.
<a href="#">Library</a>	Provides the resources necessary to facilitate research and enhance university curriculum and programs.
<a href="#">Math Tutoring Center</a>	Students can drop in to work on homework, take tests, and receive individualized or group tutoring. Online tutoring is also available.
<a href="#">Student Support Services</a>	Provides a variety of free services to help first-generation, low-income, or students with disabilities to complete an associate degree and move on to a bachelor degree.
<a href="#">Testing Center</a>	Provides all proctored exams on campus and can make accommodations for remotely proctored exams.
<a href="#">Utah Health Scholars</a>	Provides tutors for upper-division, health-related courses. Students must register into the UHP program to qualify for this free tutoring.
<a href="#">Veterans Services</a>	Offers tutoring for some classes and arranges tutoring in other centers for other classes. Must have VA benefits to qualify.
<a href="#">Writing Center</a>	Offers students personalized attention from tutors for writing.

## UTAH TECH POLICIES & STATEMENTS

### PRIVACY

It is your responsibility to protect your data and privacy online. Be careful and use discretion when using any of the course technologies to complete required learning activities. If you are unsure about how to protect your data and privacy online, please use the resources provided to understand your responsibility.

[101 Data Protection Tips: How To Keep Your Passwords, Financial, and Personal Information Safe](#)

Harper, E. (2018). [9 Simple Ways To Protect Your Privacy](#)

[Canvas Privacy Policy](#)

[Google Privacy Policy](#)

[YouTube Policies](#)

[Vimeo Privacy Policy](#)

### Utah Tech Policy Links

[Code of Student Rights and Responsibilities \(Academic dishonesty / academic integrity policy, student academic conduct policy\)](#)

[Financial Aid](#)

[Registration](#)

[Student Association](#)

[Student absence related to college function](#)

[Sexual Harassment](#)

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## **TITLE IX STATEMENT**

Utah Tech University affirms its commitment to the promotion of fairness and equity in all aspects of the educational institution. Harassment and discrimination—including sex/gender discrimination, gender identity, gender expression, sexual harassment, sexual misconduct, gender-based violence, dating violence, domestic violence, stalking, pregnancy or parental , family or marital status and or retaliation—not only disrupts our commitment to maintaining an environment in which every member of the University community is treated with respect and dignity, but may also violate University policy and federal, state, and/or local law.

Should you or someone you know experience behavior that is coercive, discriminatory, harassing, and or sexually violent in nature, or if you or someone you know has questions about their rights and options regarding such behavior, you are encouraged to contact:

[Title IX Coordinator](#) 435.652.7747 (ext. 7747)

Incidents may also be reported directly to law enforcement, either separately or in conjunction with any report made to the University's Title IX Coordinator, and the University will aid in making contact if requested.

Utah Tech University Police 435.275.4300 or by calling 9-1-1

Maintaining a safe and inclusive University community is a shared responsibility. For more information on how Title IX protections can benefit you and help us keep a productive campus environment, visit [titleix.utahtech.edu](http://titleix.utahtech.edu) to learn more.

## **STUDENT EMAIL**

You are required to frequently check your university email account. Important class and university information will be sent to your university account, including Utah Tech bills, financial aid/scholarship notices, notices of cancelled classes, reminders of important dates and deadlines, and other information critical to your success at Utah Tech and in your courses. To access your university-sponsored account, visit [helpdesk.utahtech.edu/about-dmail](http://helpdesk.utahtech.edu/about-dmail). Your username is your digital ID (e.g. D00111111).

## **NON-STUDENT**

Non-student in the classroom and other designated study areas: It is expected that only bona fide students as defined and classified by the Utah Tech University catalog, will attend classes, unless specific prior permission for guests has been obtained from the instructor.

## **ACADEMIC GUIDELINES REGARDING COVID-19**

For Utah Tech's [up-to-date COVID-19 Emergency Response Plan](#), please visit the university website.