



EAST TENNESSEE STATE
UNIVERSITY

CSCI-4537 ETHICAL HACKING SYLLABUS & COURSE POLICIES

Course Details:

Fall 2026: August 24th – December 6th
Tuesday & Thursday 1:30PM – 3:30PM

Instructor Information:

Benjamin Burton
Email: burtonbr@etsu.edu

Prerequisites: Referenced in Goldlink

Corequisites: None

Credit: 3 credit hours

Office Hours (2.2111):

Monday | Wednesday: 10:30 AM – 12:00 PM
Tuesday | Thursday: 3:30 PM – 4:30 PM

COURSE DESCRIPTION AND MAJOR TOPICS:

The purpose of this course is to present critical concepts and skills related to identifying, exploiting, and remediating weaknesses in information systems. Students conduct hands-on penetration testing across four progressive modules — reconnaissance and foot printing, vulnerability assessment, exploitation, and post-exploitation and defense — working primarily in cloud-hosted lab environments. Topics include OSINT and passive information gathering, active scanning and enumeration, vulnerability identification, web application security, exploitation frameworks, password and authentication attacks, privilege escalation, persistence and detection evasion, and defensive countermeasures. Emphasis is placed on legal authorization, scope discipline, and professional security reporting throughout.

COURSE LEARNING OUTCOMES:

At the end of this course, students who earn a passing grade shall be able to:

- Identify common attack vectors based upon a given target (Student Outcome 5a)
- Understand, review, and critique current attacks that have occurred in public (Student Outcome 5b)
- Create attack platforms for exploiting web-based technologies (Information Technology 1a)
- Evaluate how a given attack can be mitigated so future breaches can be avoided (Student Outcome 5b)
- Apply various encryption attack methodologies based upon the discovered cipher algorithm (Student Outcome 5b)
- Communicate technical findings and remediation guidance to both technical and non-technical audiences (Student Outcome 5b)

REQUIRED TEXTBOOKS, PLATFORMS, AND RESOURCES

Required Materials

- All course materials will be provided through D2L (Desire2Learn)
- No textbook purchase is required for this course
- Lab guides, engagement briefs, and report templates will be accessible via D2L

Required Platforms

- **TryHackMe** — primary lab platform for this course. Premium access is provided by the instructor; students will receive enrollment instructions during the first week. Students must create an account and complete platform onboarding during Week 1.
- **Cyber Range** — secondary platform used for defensive exercises and the final engagement. Access details will be provided when the platform is first used.

Technical Requirements

- Access to D2L (Desire2Learn) learning management system
- Computer capable of running a modern browser and browser-based virtual lab environments
- Reliable internet connection sufficient for sustained remote lab sessions
- Students should be prepared to work in-browser; a local virtual machine is not required

Software Resources

- Microsoft Office 365 (available free through ETSU)
- Kali Linux is available for optional local use; specifications and setup guidance provided on request
- Additional tools will be specified within individual lab assignments

COURSE DELIVERY METHOD

This course employs a flexible delivery approach that primarily meets in-person at the ETSU BlueSky Chattanooga Center as scheduled. While most class sessions will be conducted face-to-face, some sessions may utilize alternative delivery methods, including:

Virtual Lab Days: Certain lab activities may be conducted remotely when the learning objectives can be effectively achieved through virtual means. These sessions will be announced in advance.

Collaborative Work Sessions: Some class periods may be designated for independent or group work that can be completed outside the classroom, with instructor availability via online office hours.

Technology-Enhanced Learning: We may occasionally leverage online tools and platforms to supplement in-person instruction.

All class sessions, regardless of delivery method, count toward the required contact hours for this course. Students are expected to participate fully in all scheduled activities, whether in-person or through alternative methods. This flexible approach is designed to enhance your learning experience while maintaining BlueSky program quality standards.

GRADE DISTRIBUTION

The instructor will base the final grade on the following attached weights:

Final Grade:

GRADED ITEM	WEIGHT
CLIENT BRIEFINGS	22%
MODULE REPORTS	24%
FIELDWORK PARTICIPATION	14%
MIDTERM	15%
FINAL ENGAGEMENT	25%
TOTAL	100%

A student can keep track of their grades throughout the semester using D2L. Students should calculate the grade according to the "Grade Distribution" information provided for the course.

GRADING SCALE:

*Percentage	Letter	*Percentage	Letter
93.000 – 100.00	A	77.000 – 79.999	C+
90.000 – 92.999	A-	73.000 – 76.999	C
87.000 – 89.999	B+	70.000 – 72.999	C-
83.000 – 86.999	B	60.000 – 69.999	D
80.000 – 82.999	B-	0 – 59.999	F

Note: *Final Grades **will not observe** traditional rounding rules. (i.e., 89.999 will result in a B+)

COURSE ASSESSMENTS AND GRADING

This course is structured around the operations of **Vance & Thorne**, a private security advisory firm. Students serve as first-year associates assigned to a series of client engagements. Each module represents one engagement, with a defined client, scope, and deliverable. This framing is used to reinforce the professional context in which authorized security testing actually occurs — under contract, within scope, and accountable to a client.

CLIENT BRIEFINGS (22%)

Once during the semester, each associate team leads a Monday class session. Teams introduce the assigned topic with a concise briefing covering what the technique is, why it matters, and where it appears in real incidents, and then lead their classmates through a live TryHackMe room in real time. The expectation is instruction, not discussion — the team is responsible for guiding the room to completion and answering questions as they arise. Teams are assigned during Week 1. Peer feedback is collected after each briefing and shared with the presenting team.

MODULE REPORTS (24%)

At the conclusion of Modules 1, 2, and 3, each associate submits an individual one-page engagement report addressed to that module's client, drawing on both labs completed within the module. Reports document scope, methodology, evidence, findings with severity ratings, and remediation guidance. These reports are deliberately concise; the objective is precision and professional presentation rather than length. Formatting requirements are detailed in the Lab Documentation Standards document on D2L. Module 4 is assessed through the Final Engagement rather than a separate report.

FIELDWORK PARTICIPATION (14%)

Fieldwork is the daily practical work of the course. Tuesday sessions consist of the peer-led room; Thursday sessions consist of an independently completed assigned lab. Both are graded on completion, verified by submission of a room completion record. Students present and participating receive full credit upon submission. Students absent for any reason remain responsible for completing the assigned fieldwork by the posted deadline; work not completed receives no credit.

MIDTERM EXAMINATION (15%)

Administered October 15. The midterm assesses conceptual and applied understanding of material covered in Modules 1 and 2, including reconnaissance methodology, scanning and enumeration, vulnerability identification, and web application security. The examination includes scenario-based questions requiring students to select and justify an approach given a defined scope.

FINAL ENGAGEMENT (25%)

The final assessment is a full-scope practical engagement conducted across the final two class sessions. Associates are assigned to offensive and defensive teams within a shared environment and exchange roles between sessions, so that every student operates on both sides. Class time on these dates is supervised working time.

The graded deliverable is an individual professional engagement report submitted during the assigned final examination period. The report documents the attack path pursued, the defensive measures implemented, what succeeded and failed on each side, and a remediation assessment. Report requirements follow the full professional format described in the Lab Documentation Standards. Exercise outcome does not affect the grade; assessment is based entirely on the quality and accuracy of the individual report.

ATTENDANCE POLICY

Regular on-time class attendance and participation is expected. Students arriving late create a distraction for others and miss important content. Respect for your classmates requires being in place and ready to begin at the scheduled time.

ABSENCE STRUCTURE

Absences	Grade Impact
0 – 3	No penalty
4 – 6	Final grade lowered by one letter grade (e.g., A to B, B- to C-)
7 or more	Final letter grade of F for the course

TARDY & LATE ARRIVAL POLICY

Definitions:

On Time: Present and ready to begin when class starts

Tardy: Arriving after class starts but within the first 15 minutes

Absent: Arriving more than 15 minutes after class starts, or not attending at all

Tardy Accumulation: Every three (3) tardies will count as one (1) absence toward your semester absence total. For example, if you are tardy 6 times and absent once, your total absence count is 3 (six tardies = 2 absences, plus 1 actual absence).

Disruptive Late Arrivals: The instructor reserves the right to deny entry to students who arrive late during activities where entry would cause significant disruption (e.g., during exams, presentations, guest speakers, or critical instruction). Students denied entry will be marked absent for that session.

Excessive Tardiness: Arriving more than 15 minutes late will be marked as absent, not tardy. If you know you will be late, it is better to communicate with the instructor in advance rather than disrupt class.

Quizzes and Assessments: Quizzes begin at the start of class and are available for 5 minutes only. Late arrivals receive a score of 0.

STUDENT RESPONSIBILITIES

When you miss class, it is your responsibility to obtain missed material from classmates and be prepared for upcoming sessions. Due dates are not adjusted for absences. Consult D2L for assignment requirements and announcements.

EXTENUATING CIRCUMSTANCES

If you face extenuating circumstances (serious illness, family emergency, university-sponsored events), contact me as soon as possible with appropriate documentation. Accommodations are made at instructor discretion and must be supported by proper documentation submitted before the absence when possible, or immediately upon return.

BLUESKY PROGRAM ATTENDANCE REQUIREMENTS

This course policy works in conjunction with the BlueSky Tennessee Institute Student Handbook attendance policy. BlueSky students should be aware that:

- After your 3rd absence, BlueSky requires a meeting with the Student Success Manager to develop an action plan
- More than 5 absences may affect your BlueSky scholarship eligibility
- Absences include missing any scheduled BlueSky activities (class, professional development, mentor meetings, internships)

University attendance policy: <https://www.etsu.edu/policies/documents/attendance-policy.pdf>

LATE WORK POLICY

Please be aware that late work will not be accepted without proper documentation justifying a university-approved absence. It is the student's responsibility to submit assignments, projects, and other coursework by specified deadlines.

In the event of a university-approved absence, such as a serious illness, family emergency, or participation in university-sponsored events, students must provide the instructor with appropriate documentation explaining the circumstances. This documentation should be submitted to the instructor as soon as possible, preferably before the absence occurs or immediately upon returning to class.

If you anticipate any issues with meeting deadlines or have concerns about potential absences, please communicate with the instructor proactively to discuss your situation and explore possible solutions.

STAYING ENGAGED AND INFORMED

To ensure your success with this course, it is essential to stay engaged and informed beyond attending class meetings. Here are a few suggestions for success in this course:

EMAIL COMMUNICATION:

- You should only use email as a tool to contact the instructor if necessary. If you have a complex question or a question related to the course, it is better to schedule a meeting rather than await an email response. Start on assignments early, so you have ample time to finish and ask questions.
- Check your email frequently and regularly to stay current with university-related communications and communications regarding this course.
- Respond promptly to any emails from the instructor or your classmates that require your attention or action.
- All email subjects must be in the format of **CSCI {Course #} - {Subject Matter}**. (E.g., CSCI 1900-800 Huffman Code Question) Following the format will ensure an email is appropriately delivered and notify the instructor. You are not guaranteed a response should you fail to adhere to this subject line format.
- I strive to respond to emails within 24-48 hours during the regular business week (Monday through Friday) between 9 am and 5 pm. If you send an email over the weekend, you can generally expect a response on the following business day.

D2L (DESIRE2LEARN)

- Access the D2L platform daily to keep current with any changes or new information regarding this course.
- Regularly review course materials, announcements, and updates posted on D2L.
- Utilize D2L to submit assignments, participate in discussions, and access additional resources provided by the instructor.

STUDENT AND INSTRUCTOR EXPECTATIONS

To foster a productive and engaging learning environment, students and instructors should have mutual expectations of one another. Remember, mutual respect and open communication between students and instructors are essential for creating a positive and effective learning experience.

STUDENT RESPONSIBILITIES:

- Arrive to class on time and well-prepared.
- Be attentive and actively participate in class discussions and activities.
- Complete assignments by their due dates.
- Strive to meet the course objectives.
- Devote ample time and effort to the course (a minimum of 2-3 hours outside of class for each hour in class).
- Ask relevant questions and contribute to class discussions to enhance learning for all.

- Take comprehensive notes during class to support the learning process.
- Respect classmates and instructors, maintaining a distraction-free learning environment.
- Engage in professional communication with classmates and faculty, building good habits for future careers.

INSTRUCTOR COMMITMENTS:

- Maximize every student's learning potential.
- Be prepared, organized, and respectful toward each student.
- Arrive to class on time and well-prepared.
- Be attentive to student's needs and available to answer questions.
- Provide assistance related to the course and help students achieve course objectives.
- Make suitable arrangements for class continuity in the rare event of the instructor's absence.
- Devote significant time and effort to the course.

INSTRUCTOR USE OF ARTIFICIAL INTELLIGENCE:

In accordance with ETSU's policy on Artificial Intelligence Technologies, I utilize various AI tools including Gemini, Claude, Copilot, and others to enhance our learning environment. These tools assist me in creating engaging course materials, labs, and activities; generating diverse assessment questions; supporting grading processes for certain assignments; developing visual content; and streamlining administrative tasks.

All AI-generated content undergoes my personal review to ensure accuracy, relevance to our course objectives, and freedom from bias. When using AI for grading assistance, student information is always de-identified to protect privacy. I maintain full responsibility and oversight for all course content, feedback, and assessment decisions. This approach allows me to dedicate more time to meaningful interactions with students while leveraging technology to enhance your learning experience.

If you have questions about AI use in this course, please feel free to discuss them with me.

PERSONAL TECHNOLOGY USE POLICY

To maintain a focused and productive learning environment, students must silence all electronic devices, including mobile phones, iPads, laptops, and tablets, during classroom and lab lectures. While the use of laptops or tablets is permitted in class, they should be used solely for activities that contribute to the classroom learning experience, such as taking notes or accessing course-related materials.

If a student is found using electronic devices for purposes unrelated to the classroom learning environment, the instructor reserves the right to ask the student to leave the classroom. This policy ensures that all students can engage fully in the course content without distractions.

EXAM POLICY

During exams, ALL electronic devices must be turned off and put away, including cell phones. If you have an emergent need that requires the use of an electronic device, please schedule that need outside of the exam time to avoid any disruptions.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

Students with disabilities who require the use of electronic devices during exams should register through the university's disability services office. Once registered, students must provide the instructor with the appropriate accommodation form to ensure that their needs are met while maintaining the integrity of the exam environment.

ACADEMIC INTEGRITY & CODE OF CONDUCT POLICY

Without exception, all submitted work for this class is to be done on an individual basis. Student-teacher relationships are built on trust. For example, students must trust that teachers have made responsible decisions about the structure and content of the course, and teachers must trust that work submitted by a student was indeed done by the student. Acts that violate this trust undermine the educational process and are inconsistent with our very reason for being at ETSU.

You are encouraged to discuss the material and issues addressed in the course with members of the class and others. Helping one another understand the process for problem-solving is permitted as long as submitted work is done as an individual attempt. Everyone must do his/her work. Completing an assignment "by committee" and submitting it as individual work is academic misconduct unless the assignment has been designated as a team assignment. Your name on the submitted work is an affirmation that the work is yours.

HONOR CODE

East Tennessee State University is committed to developing the intellect and ethical behavior of its students. Students who violate policies on plagiarism, cheating, or fabrication will be held accountable for their actions. Students should report any knowledge of academic misconduct. Students are expected to act with honesty, integrity, and civility in all matters.

HONOR PLEDGE (PLEDGED AT UNIVERSITY ORIENTATION)

By becoming a member of the campus community, students agree to live by the standards of the honor code and thereby pledge the following: "I pledge to act with honesty, integrity, and civility in all matters."

PLAGIARISM

Plagiarism involves using someone else's words, ideas, and code without crediting the original author. Even if one does not copy the words exactly or even copies only a tiny part of someone else's work, one must cite the original author's name and provide a reference to that person's work (e.g., the title of work, year of publication, and name of publisher).

ARTIFICIAL INTELLIGENCE STATEMENT

You are welcome to use generative artificial intelligence (AI) tools (such as ChatGPT) in this class as doing so aligns with our course learning goals. However, you must properly cite any AI tools that you use in your work and be responsible for the accuracy and quality of the content generated by them.

Please note that this policy is a general-use policy on Artificial Intelligence. Your instructor reserves the right to change this policy based on individual circumstances and assignments. The use of Artificial Intelligence is strictly prohibited on examinations and falls under the university's academic misconduct policy.

REPEATING A COURSE AND COURSEWORK RESUBMISSION

When students must repeat a course, they may not resubmit work submitted in a prior class instance. In the case of research papers or other class items, students must select a different topic, and the work on the project must be wholly different from the work previously submitted. For other course assignments, the student must submit original work. Students may not submit work from other classes.

VIOLATION OF THE HONOR CODE

In cases where the honor code or other topics in the academic integrity section are violated, known as academic misconduct, the penalty will be an 'F' in the course. Be aware that repeated academic misconduct may result in the University applying other penalties.

STUDENT SERVICES RESOURCES

STUDENT SERVICES

The [ETSU Services webpage](#) includes a comprehensive list of services available to all ETSU students.

ACADEMIC ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES

It is the policy of ETSU to accommodate students with disabilities according to federal law, state law, and the University's commitment to equal educational access. Any student with a disability who needs accommodation, for example, arrangement for examinations or seating placement, should inform the instructor at the beginning of the course. ETSU provides Faculty accommodation forms to students through Disability Services in the D.P. Culp Center, Room 326, telephone 423-439-8346. [Visit the Disability Services webpage for more information.](#)

MENTAL HEALTH SERVICES

The BucsCARE website is meant to be a resource for students and student referrals. BucsCARE includes the most referenced offices and campus resources in various categories. This page includes a link to ETSU's "Need Help?" site, including a comprehensive listing of other resources by topic area.

Learn more about the BucsCARE services at: <https://www.etsu.edu/bucscare/default.php>

LIBRARY RESOURCES

The Sherrod Library extends access and services to all currently enrolled ETSU students. These services include traditional library patronage via Research and Instructional Services, Technology, and Content Services. Learn more about the Sherrod Library by visiting <https://libraries.etsu.edu>

TECHNICAL RESOURCES

HELP DESK

The Information Technology Services (ITS) Help Desk is the best resource for most technical problems. Find answers to common questions on the [Help Desk website](#), call, email, or stop in to see them on the first floor of the Sherrod Library. Phone: 423-439-4648 Email: itshelp@etsu.edu

DESIRE2LEARN (D2L) ONLINE HELP

Faculty, Staff, and Students can find answers to D2L-related questions on the [D2L Help Student Home](#). If you still have trouble finding what you need, contact the Help Desk.

MICROSOFT OFFICE SOFTWARE

Microsoft Office productivity applications, including Word, PowerPoint, Excel, OneNote, and more, are free for students through the University's Office 365 campus agreement. For instructions on obtaining the software, see the [Office 365 page of the ITS Help Desk website](#).

TURNITIN PLAGIARISM DETECTION

Turnitin is a plagiarism detection service available to students and faculty at ETSU. This tool compares student-written work against a comprehensive database of other work and various internet sources. Faculty may employ this service for some or all written assignments to help students learn to cite sources accurately and ensure academic integrity. Learn more on the [Turnitin home page](#).

ETSU TECHNICAL RESOURCES

Faculty, Staff, and Students can find many other technical resources on the [Online Help webpage](#).

SYLLABUS ATTACHMENT

Students can find information regarding other University policies, procedures, and resources here:

<https://www.etsu.edu/curriculum-innovation/syllabusattachment.php>

BLUESKY STUDENT HANDBOOK ATTACHMENT

BlueSky students can find information regarding other BlueSky policies, procedures, and resources here:

<https://www.etsu.edu/cbat/computing/bluesky-tn-institute.php>

DISCLAIMERS

SYLLABUS CHANGES

The instructor reserves the right to change the syllabus including grade distribution. The instructor will immediately notify students of such changes by posting the notification and the nature of the change(s) on the course site.

SCHEDULE CHANGES

The instructor reserves the right to change the course schedule. The instructor will immediately notify students of such changes by posting the notification and the nature of the change(s) on the course site.