

AMBERTON UNIVERSITY
e-COURSE SYLLABUS

MIS5360.E1 Introduction to Cybersecurity
Spring 2026

PROFESSOR INFORMATION:

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COURSE INFORMATION:

MIS5360.E1 Introduction to Cybersecurity
Level: Graduate
Beginning Date of Session: Saturday, March 14, 2026
Ending Date of Session: Thursday, May 21, 2026
Student access available to the Student Portal: Saturday, March 14, 2026.

Students enrolled in distance learning courses are not assessed any additional fees for security or identity verification.

COURSE PREREQUISITES:

None

TEXTBOOK(S) AND REQUIRED MATERIALS:

Title: CompTIA Security+ Guide to Network Security Fundamentals (8th Edition)
Author: Mark Ciampa
Publisher: Cengage Learning
Year Published: 2025
Edition: (8th Edition)
ISBN: 10: 9798214000633 or 13: 9798214406978
Price: Available at <http://amberton.ecampus.com>

Amberton University has an agreement with eCampus.com to provide a full-service online bookstore to students. The Amberton University Virtual Bookstore is accessible through the University's website, www.Amberton.edu. There is also a bookstore link in the Student Portal.

The AU Virtual Bookstore provides an easy to use interface, online buyback of books, and same day shipment of most titles with an average delivery time of 2-3 days depending on the student's location. Textbook options include new, used, rental, and electronic media as available.

Since no books are sold on campus, students should plan accordingly and purchase their books in advance of the first day of class, allowing time for shipping. Be certain you are enrolled in the course before purchasing your book(s). All textbook information (Title, Author, ISBN, etc.) is available in the course syllabi so students can shop competitively. Most textbooks can be purchased from many different textbook vendors. Some textbooks may only be available on the University's Virtual Bookstore. Students should be careful to obtain the exact resource(s) required for the course.

APA Requirement

APA (American Psychological Association) style is most commonly used to cite sources within the social sciences. This resource, revised according to the 7th edition, offers examples for the general format of APA research papers, in-text citations, endnotes/footnotes, and the reference page. For more information, please consult the *Publication Manual of the American Psychological Association*, (7th ed.). All coursework at Amberton University will comply with the standards contained in the APA Publication Manual.

COURSE COMPETENCIES

This course provides a comprehensive introduction to cybersecurity principles, technologies, and practices for both managerial-level learners and hands-on practitioners. Students explore foundational concepts such as security governance, policy, risk management, legal/ethical standards, and the growing role of AI/ML in modern cyber defense. The course examines network and cloud security architectures, intrusion detection systems, identity and access management, automation tools, cyber threat intelligence, and the fundamentals of ethical hacking. Learners gain practical exposure to incident response, digital forensics, log analysis, and AI-enabled security operations. By the end of the course, students will understand key security concepts, evaluate risks, analyze threats, and apply defensive techniques in realistic cybersecurity scenarios.

UPON COMPLETION OF THE COURSE, THE STUDENT WILL BE COMPETENT IN:

1. Explaining foundational cybersecurity principles, governance frameworks, and legal/ethical considerations.
2. Evaluating organizational risk using standard risk-management methodologies and recommending appropriate mitigation strategies.
3. Analyzing network and cloud security architectures, including firewalls, IDS/IPS, segmentation, and identity/access controls.
4. Applying basic skills in intrusion detection, security monitoring, and automation scripting to support cybersecurity operations.
5. Implementing core identity and access management (IAM) concepts, including authentication, authorization, and privilege management.
6. Assessing cyber threats using threat-intelligence frameworks, adversary tactics, and red/blue team methodologies.
7. Demonstrating introductory ethical hacking techniques within authorized laboratory environments.
8. Performing foundational incident-response tasks, including detection, containment, eradication, and recovery procedures.
9. Conducting basic digital forensics processes such as evidence handling, imaging, preservation, and file-system examinations.
10. Analyzing log data from various sources to identify anomalies, security events, and potential indicators of compromise.
11. Identifying how AI/ML supports modern cybersecurity operations, including automated threat detection, SOAR workflows, and behavioral analytics.
12. Integrating cybersecurity concepts to evaluate realistic scenarios and propose appropriate defensive strategies and solutions.
13. Designing and justifying enterprise-level cybersecurity governance and risk-management strategies aligned with organizational objectives and regulatory requirements.
14. Critically analyzing advanced persistent threats (APTs) and multi-stage attack campaigns using intelligence-driven frameworks such as the cyber kill chain and MITRE ATT&CK.
15. Evaluating and developing secure cloud, hybrid, and zero-trust security models incorporating automation, scalability, and compliance considerations.
16. Assessing the effectiveness, limitations, and ethical implications of AI/ML-driven cybersecurity solutions, including adversarial machine learning and model risk.
17. Evaluating emerging cybersecurity technologies, threats, and policies and develop evidence-based strategic recommendations for organizational decision-making.

ACQUIRED SKILLS

1. Understand and apply cybersecurity governance frameworks.
2. Analyze network, cloud, and endpoint defensive architectures.
3. Perform intrusion detection and automation scripting.
4. Examine cyber threats using intelligence and red/blue methodologies.
5. Demonstrate ethical hacking fundamentals.
6. Conduct basic digital forensics investigations.
7. Explain how AI/ML supports SOC operations and automated threat detection.

COURSE POLICIES:

Student's Responsibilities

This syllabus contains information, policies, and procedures for a specific course. By enrolling, the student agrees to read, understand, and abide by the policies, rules, regulations, and ethical standards of Amberton University as contained in the current university catalog and schedule of classes.

Attendance Policy:

Regular and punctual class attendance and engagement is expected at Amberton University. In case of an absence, it is the student's responsibility to contact the professor as soon as possible. If a student intends on withdrawing from a course, it is the student's responsibility to follow the university's policy on formally withdrawing from a course. **Ceasing to attend classes does not constitute an official withdrawal.**

Attendance in a lecture course is defined as punctual arrival to, and engagement in, a full lecture session. A Student in a lecture course missing more than 20% (two class periods for weekday classes or one class period for Saturday classes) of the class meetings may be assigned a grade of an "F" or withdrawn at the discretion of Amberton University.

Attendance in a distance learning course is defined as active participation in the weekly online class sessions. "Active participation" can be defined as: submitting an academic assignment, taking an exam, engaging in an interactive tutorial, participating in an online discussion forum (or chat session), or initiating (or responding to) a communication with a faculty member about an academic assignment or the subject matter of the course. A student not meeting these requirements may be assigned a grade of an "F" or withdrawn at the discretion of Amberton University.

Plagiarism Policy

Plagiarism is the presentation of someone else's work as though it were your own. If you use another person's words, ideas, or information; or if you use material from an outside source – whether a book, magazine, newspaper, business publication, broadcast, speech, or electronic media – you must acknowledge that source. Plagiarism is a violation of the University's code of student ethical conduct and is one that is taken seriously. Amberton University operates on an honor system; therefore, honesty and integrity are essential characteristics of all who are associated with the institution. All Amberton students are expected to abide by the honor system and maintain academic integrity in all their work. Amberton University and its instructors monitor student work for plagiarism and reserve the right to submit such work to technology-based plagiarism detection services and applications at any time.

Self-plagiarism means reusing work that you have already published or submitted for a class. It can involve:

- Resubmitting an entire paper
- Copying or paraphrasing passages from your previous work

Self-plagiarism misleads your readers by presenting previous work as completely new and original. Students may not submit the same paper in substance in two or more classes without prior written permission of the instructors involved.

Amberton University students who use Artificial Intelligence (AI) generated content must adhere to the following policies:

Originality: Students must avoid presenting AI generated content as their own original work. It is essential to acknowledge the involvement of AI in the content creation process in order to maintain academic and ethical standards.

Paraphrasing: When using AI generated content, students must rephrase and/or modify the generated text. Paraphrased AI generated content should also be properly cited.

Acknowledgement: When using AI generated content in any assignment, proper credit must be given to the AI system that generated the content. <https://apastyle.apa.org/blog/how-to-cite-chatgpt>

Students agree that by taking this course, all required assignments may be subject to submission for a textual similarity review to Turnitin.com for the detection of plagiarism and self-plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting

plagiarism in future papers. Use of Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com website.

Turnitin is a writing improvement and plagiarism prevention tool which uses special algorithms, to compare text-based student submissions to the Turnitin database and other online sources. Turnitin produces a detailed **similarity report** that can be customized and viewed by instructors and students.

Turnitin “Draft Coach” is a Google based add-on to Turnitin which supports students in developing high-quality academic writing; and serves as an integrity coach. Draft Coach helps address errors and improve the quality of student’s writing by highlighting grammar mistakes, identifying incorrectly cited sources, and scanning for similarity across several databases. By providing formative feedback on how to address citation issues, incorrect grammar, and matches with the Turnitin database, Draft Coach provides explanations to help students become more confident writers, capable of producing higher quality work both in academics and in the workplace.

Please see below for instructions.

COURSE OUTLINE AND CALENDAR:

Course Schedule:

Week	Topic	Assignment	Competencies Covered	Due Date
Mar 14 - Mar 15	Review the course materials and navigate through the course	Introduction discussion	Foundational cybersecurity awareness; course expectations	Mar 15
Mar 16 – Mar 22	Module 1: Introduction to Information Security Module 2: Pervasive Attack Surfaces and Controls	Case Study Discussion Quiz	Foundational cybersecurity principles; governance frameworks; risk awareness; attack surface analysis	Mar 22
Mar 23 – Mar 29	Module 3: Fundamentals of Cryptography Module 4: Advanced Cryptography	Assignment Discussion Quiz	Cryptographic concepts; data protection; secure communications; applied cryptography	Mar 29
Mar 30 – Apr 05	Module 5: Endpoint Vulnerabilities, Attacks, and Defenses Module 6: Mobile and Embedded Device Security	Case Study Discussion Quiz	Endpoint security; mobile and IoT risks; vulnerability analysis; defensive strategies	Apr 05
Apr 06 – Apr 12	Module 7: Identity and Access Management (IAM) Module 8: Infrastructure Threats and Security Monitoring	Assignment Discussion Quiz	IAM implementation; authentication and authorization; security monitoring; intrusion detection	Apr 12
Apr 13 – Apr 19	Review Modules 1–8	Midterm Examination	Integrated understanding of foundational	Apr 19

			security, cryptography, IAM, and infrastructure defense	
Apr 20 – Apr 26	Module 9: Infrastructure Security Module 10: Wireless Network Attacks and Defenses	Case Study Discussion Quiz	Network security architectures; wireless threats; mitigation strategies; defensive controls	Apr 26
Apr 27 – May 03	Module 11: Cloud and Virtualization Security Module 12: Vulnerability Management	Assignment Discussion Quiz	Cloud security models; virtualization risks; vulnerability assessment and remediation	May 03
May 04 – May 10	Module 13: Incident Preparation and Investigation Module 14: Oversight and Operations	Case Study Discussion Quiz	Incident response lifecycle; digital forensics basics; operational security oversight	May 10
May 11 – May 17	Module 15: Information Security Management	Assignment Discussion (Reflection) Quiz	Security governance; risk management; asset management; strategic security leadership	May 17
May 18 – May 21	Review Modules 9–15	Final Examination	Comprehensive integration of cybersecurity principles, applied skills, and strategic analysis	May 21

GRADING CRITERIA:

Grading Scale:

Discussion (15% of final grade | 9 discussion activities)

- Discussion activities are assigned throughout the course to encourage interaction, collaboration, and engagement among students.
- Assesses participation, critical thinking, clarity of communication, and the ability to apply course concepts in academic and professional discussions.

• Quiz (10% of final grade | 8 quizzes)

- Quizzes are administered periodically to reinforce weekly learning objectives and ensure continuous engagement with course content.
- Evaluates understanding of key terminology, foundational concepts, and assigned course materials.

• Assignment – Case Study (20% of final grade | 4 case study assignments)

- Case study assignments require students to analyze real-world or hypothetical business situations using course concepts.
- Assesses analytical thinking, application of theoretical frameworks, written communication, and problem-solving skills.

• Assignment – Scenario-Based Problem Solving (20% of final grade | 4 scenario-based assignments)

- Scenario-based assignments focus on decision-making in practical, applied, and professional contexts.

- Evaluates the ability to interpret information, apply course concepts, justify decisions, and develop effective solutions.
- **Midterm Examination (15% of final grade | 1exam)**
 - A examination covering material from the first half of the course.
 - Measures understanding of core concepts, theories, and applied knowledge.
- **Final Examination (20% of final grade | 1 comprehensive exam)**
 - A comprehensive exam administered at the end of the course covering all course material.
 - Assesses overall knowledge integration, critical thinking, and mastery of course learning outcomes.

Graduate	
92 – 100	A
82 – 91	B
72 – 81	C
62 – 71	D
Below 62	F

GRADE NOTIFICATION AND INSTRUCTOR FEEDBACK:

A successful distance learning experience requires a flow of communication between instructor and student throughout the session. Instructor comments are considered essential to the learning process. Therefore, each assignment/exam submitted will be reviewed, graded, and returned to the student in a timely manner along with the appropriate commentary. Students should carefully review all comments.

Final grades are processed approximately one week after the last day of the session and may be located in the My Grades section of the online registration portal as well as being emailed to the student's Amberton University email. Amberton University staff will not release grades over the phone. University instructors will not leave a message with comments or grades in any type of media that is not secure.

For questions regarding grades after the semester has ended, students should use their university email account and contact the instructor at the faculty email address as provided above in *Professor Information* area.

Incomplete Grades

An "I" (incomplete grade) is given at the discretion of the professor and may be given only when an emergency or illness prevents the student from completing course requirements. Should an "I" be granted, the student has 30 days from the end of the session to complete the conditions of the incomplete. An "I" which is not properly removed within 30 days following the session enrolled will become an "F" grade.

How To Withdraw From a Course

To be official, the class withdrawal must be in writing and signed by the student requesting the withdrawal; no withdrawal is accepted verbally. Please review the "Schedule of Classes" (online or in-print) for procedures for class changes or withdrawals and the refund policy and schedule.

COURSE DELIVERY METHODOLOGY:

This course is offered as a distance-learning course through the Moodle Learning Platform. Amberton's distance learning courses, called e-Courses, are identical to classroom courses in terms of learning outcomes, competencies, and instructor expectations. A student choosing to take an e-Course must have the following skills and technical capabilities:

1. Access to the Internet
2. General knowledge in:
 - Internet browser settings and configuration
 - e-mail and file attachments
 - Uploading and downloading files
 - Using a word processing package
3. Ability to conduct on-line research

Students who have not mastered these skills should not enroll for this course but should consider enrolling in MIS2110 Computer Concepts and Internet Technologies for instruction in these areas.

HOW TO ACCESS YOUR COURSE:

SINGLE SIGN-ON (SSO) INSTRUCTIONS FOR AMBERTON UNIVERSITY

Amberton University uses a Single Sign-On (SSO) portal to provide secure, one-time access to various systems like Moodle, Amberton Email (Gmail), and Campus Web.

Here are the step-by-step instructions for logging into the SSO portal:

1. Access the SSO Portal

You have two main ways to reach the login page:

- Direct URL: Open your web browser and go directly to the SSO login page:

<https://sso.amberton.edu>

- Via University Website (Alternative):

1. Go to the Amberton University website: <http://amberton.edu>.
2. Click the menu icon (often represented by 3 horizontal bars typically found on the right side of the screen).
3. Click the SSO Login link.

2. Enter Your Credentials

When prompted, enter your Amberton University credentials:

- Username: This is the same as your University email account name (the part before @my.Amberton.edu).
- Format: Your capitalized first name initial + your entire last name + the last three digits of your SSN.
- Example: If your email is JSmith789@my.Amberton.edu, your Username is JSmith789.
- Password: This is your Amberton University ID # (AUID), and it must include the dashes.
- Example: 07-999-876

3. Set Up Multi-Factor Authentication (Initial Login Only)

- First-Time Users: During your initial log-in, the system will prompt you to set up Two-Factor Authentication (2FA) for added security.
- Follow the on-screen steps to establish your preferred authentication method (e.g., text message, or an authenticator application like Google Authenticator).

4. Access Your Applications

- Once successfully logged into the SSO portal, you will see a dashboard with icons or links for the various applications you can access.
- Click on the application you wish to use (e.g., Moodle, Gmail, or CampusWeb), and you will be taken directly to it without needing to log in again

If you have lost or do not know your University email address or have access issues, please contact the IT Help Desk at:

(972-279-6511 ext. 128
e-sysop@amberton.edu

If you have lost or do not know your Amberton ID#, please contact the Student Services Office 972/279-6511 or advisor@Amberton.edu for a replacement AUID card. You must know your Amberton ID# to gain access to the course and to send an email to your professor.

Amberton University Moodle Website

Students enrolled in distance learning courses using the Moodle Learning Platform may also access the course by going to: <http://moodle.Amberton.edu>

For those utilizing Moodle for the first time, the **username and password** for the Moodle Learning Platform will be emailed to the student's University email account prior to the start of the course. For those returning to Moodle who do not remember their username and password, click on the link "*Forgotten your username or*

password" available on the Moodle log in page (<http://moodle.Amberton.edu>). Otherwise use the same username and password as previous session.

Moodle Tutorial:

Upon successful log in and access to the Moodle learning platform, there is a *Student Moodle Tutorials* course available, to learn about the basics of Moodle. Simply click on the link for the *Student Moodle Tutorials* and read through the various learning topics: Navigating; Communicating; Assignments & Exams; Grades; and Student Resources.

COURSE COMMUNICATIONS:

Students will communicate with faculty through the Moodle Learning Platform or the Amberton University email system.

Email Communication

Each student enrolled is assigned an Amberton email account, which gives the student access to the Amberton email system (my.Amberton.edu). This email account is provided by Google Apps for Education. Students are encouraged to check their email regularly for University news, notices, and to communicate with instructors.

The student's assigned email address would be Username@my.Amberton.edu

Example: LJones-Smith789@my.Amberton.edu

The student Username is determined by:

firstname initial+lastname+last 3 digits of student ssn.

For example: Linda Jones-Smith SSN: 123-45-6789

Email Address = LJones-Smith789@my.Amberton.edu

Students will be prompted for a Username and Password when accessing their email account. Use the Username portion of the email address as the username (Example: LJones-Smith789) and your Amberton ID# (including the dashes) as the password.

If you already have a Google Gmail account, you might be prompted to add this account to your current account. Click 'Yes' and you will be logged into your my.Amberton.edu email account. It will be a separate email account from your personal Gmail account.

If you need assistance with your email account, please visit <https://support.google.com/mail>

Students are responsible for reviewing the "Communication Guidelines" provided on the individual E-Course for specific instructor requirements.

Upon completion of a session, all communication and course specific information is removed from the Moodle system. If a student needs to maintain a record of communications or assignments, the student is strongly encouraged to print out or download these items to a disk for their own records.

FORMAT AND SUBMISSION OF ASSIGNMENTS:

Assignments are to be submitted to the appropriate assignment Drop Box in the Moodle system. Specific directions and guidelines for submission of assignments are located on-line in the "Communication Guidelines" of the e-course. Due to compatibility issues, Office 2007 files cannot be read by earlier versions of Microsoft Office. Before submitting an exercise file, confirm the file is in the proper format for grading by the instructor.

INSTRUCTOR/COURSE EVALUATION:

Each session, all Amberton students are provided with the opportunity to evaluate their courses and instructors. The evaluation process is an important one and provides students with an anonymous and

confidential way to give meaningful feedback to the University. Summary information and comments are provided to faculty after the close of the session. All information provided is anonymous.

The Instructor/Course Evaluation will be open for completion during week 9 of the session. An evaluation assignment will be placed in week 9 of the Moodle course, along with the instructions on how to complete the evaluation. Prior to week 9, the University will send out an email containing instructions and dates for the evaluation period.

RESEARCH RESOURCES:

The Library provides access to full-text, and peer reviewed articles, and digital research tools. Students can search Library holdings through the online catalog and databases search engines available on the Library website or browse the physical library space and holdings located at the Garland campus.

Research items not contained in the Amberton Library collection can be located through interlibrary Loan (ILL) or through the TexShare program with the help of the Library staff. Students with questions about available services, resources, or research, may contact the Library via email at Library@amberton.edu.

RESEARCH ACCESS:

Databases can only be accessed by authorized users, and students at Amberton must enter their Amberton ID credentials-same as Moodle login-to gain access when off-campus. Use an Amberton website, such as the University site (Amberton.edu) or the library site (Library.amberton.edu) to find links to databased and digital books. Online resources are available all day, every day.

Library Live Chat Feature

Library staff are available to assist students with research problems or questions during Library hours through a live online chat feature, telephone, email, "How-to" videos, or in person. The library telephone is (972-279-6511 ext. 185. You can email questions to library@amberton.edu or visit the library in person on the Garland campus for assistance.

Microsoft Office 365 Education:

Amberton University students have access to a license for Office 365 Education, a comprehensive suite of productivity tools. This package includes:

- Microsoft Word for document creation
- Excel for spreadsheets and data analysis
- PowerPoint for presentations
- OneNote for digital note-taking
- Microsoft Teams for collaboration
- Additional classroom tools to enhance your learning experience

To set up your student account and access these resources, please follow the instructions provided in our step-by-step guide: https://amberton.edu/wp-content/uploads/2025/01/Office365_Setup_Students.pdf

Google Workspace for Education:

All students are assigned a Gmail account in Google Workspace for Education.

To set up your student account and access these resources, please follow the instructions provided in our step-by-step guide: https://amberton.edu/wp-content/uploads/2025/01/Google_Drive_Students.pdf

Once logged into your student account, you'll have access to a suite of tools designed to enhance your learning experience:

- Google Docs: Create and edit essays, reports, and other written assignments
- Google Slides: Develop engaging presentations for projects and class discussions
- Google Sheets: Perform data analysis, create charts, and manage calculations
- Google Drive: Store, organize, and easily access all your files in the cloud
- Google Calendar: Schedule study sessions, track assignment deadlines, and manage your academic timetable
- Google Keep: Take and organize quick notes during lectures or study sessions

- Google Meet: Attend virtual classes, participate in group study sessions, or meet with teachers
- Google Classroom: Access course materials, submit assignments, and receive feedback from instructors
- Google Forms: Create surveys for research projects or participate in class quizzes
- Google Sites: Build websites or digital portfolios to showcase your work

Turnitin Draft Coach

Instructions for Accessing Turnitin Draft Coach in Google Docs

Turnitin Draft Coach is typically available as an add-on or extension within Google Docs, allowing you to check for similarity, citations, and grammar *before* final submission.

Important Pre-requisites:

- Institutional Access: Draft Coach must be licensed and enabled by your school or institution's Turnitin and Google Workspace administrators. If you cannot find the extension, contact your instructor or IT support.
- Account: You must be signed into Google Docs using your institutional/school email account, not a personal Gmail account, for the extension to appear and work correctly.
- Document Type: The document must be a native Google Doc (not an uploaded .doc, .docx, or .pdf file opened in Docs). If you have another file type, copy and paste the text into a new, blank Google Doc.

Step-by-Step Guide

1. Open Google Docs: Sign in to your institutional Google account and navigate to Google Docs.
2. Open Your Document: Open an existing assignment draft or start a new document and paste your writing into it.
3. Access the Extension: In the top menu bar of your Google Doc, click on Extensions.
4. Select Draft Coach: Hover over or click Turnitin Draft Coach, and then select Turnitin Draft Coach again from the submenu.
 - *Note: If the option does not appear immediately, refresh your page and try again.*
5. Draft Coach Panel: The Draft Coach panel should now appear on the right-hand side of your screen.
6. Get Started: The first time you open it, you may need to click a "Get Feedback" or similar button, and you will likely need to read and accept the Terms and Conditions to continue.
7. Run Reports: Once loaded, you can select the tabs or cards in the panel to run different checks:
 - Similarity Check: Checks against Turnitin's database. (*Note: You typically have a limited number of checks for similarity, often three.*)
 - Citations Check: Analyzes your document for correct citation and referencing practices.
 - Grammar Guide: Provides feedback on grammar and mechanics (usually US-English rules).

You are now ready to use Turnitin Draft Coach to review and improve your writing!