

NOTRE DAME COLLEGE COURSE SYLLABUS

CY 100 - Introduction to Cybersecurity

| | |
|--|----------|
| SYLLABUS | 2 |
| About the Course | 2 |
| Instructor | 2 |
| Course Rationale | 2 |
| Course Description | 2 |
| Student Learning Outcomes | 2 |
| Required Course Materials (including any special technology) | 3 |
| Recommended Readings and Materials | 3 |
| Help Desk | 3 |
| Course Requirements and Methods of Evaluation | 3 |
| Grade Allocation | 3 |
| Grading Scale | 4 |
| Course Calendar | 4 |
| Course Policies | 6 |
| Attendance Policy | 6 |
| Makeup and Late Work Policy | 7 |
| Individual Instructor Policies | 7 |
| About Notre Dame College | 7 |
| Notre Dame College Mission Statement | 7 |
| Notre Dame College Goals | 7 |
| Institutional Learning Outcomes | 7 |
| College Policies | 8 |
| Academic Policies and Procedures | 8 |
| Personal Responsibility | 8 |
| Academic Integrity Policy | 8 |
| Disruptive Student Policy | 10 |
| Students with Disabilities | 10 |
| Copyright Disclaimer | 10 |

Syllabus

About the Course

Instructor

Instructor information is listed in the Moodle course.

Course Rationale

This course is designed for the student to gain knowledge in cyber vulnerabilities, adversaries, exploitations, and threats against our national security, assets, and critical infrastructure. By gaining cybersecurity knowledge, the student will prepare for the cybersecurity professional positions to apply his/her knowledge and skills to solve cybersecurity challenges.

Course Description

Provides the knowledge necessary to improve security by identifying and prioritizing potential threats and vulnerabilities of a computer network. Introduces policies, legal aspects and compliance.

Student Learning Outcomes

Program Learning Outcomes

Program outcomes aligned with this course are indicated in **bold** in the list below:

1. Understand complex cybersecurity problems and apply principles of cybersecurity design and best practice—including intelligence, damage assessment, recovery and computer forensics, risk assessment and management, and human factors—to prevent and/or mitigate cyberattacks.
2. **Demonstrate foundational knowledge of information technologies, and their impact on organizational processes and decision-making.**
3. Design, implement, administer, and evaluate solutions in computer networks and database management systems using cybersecurity best practices.
4. **Assess and apply security principles and practices to maintain operations and protect information infrastructure in the presence of cyber risks and threats.**
5. **Recognize and analyze professional responsibilities and make informed judgments in cybersecurity practice based on legal and ethical principles.**
6. **Operate and communicate effectively as a member or leader of a cybersecurity team.**

Course Learning Outcomes

By the end of this course, students will be able to:

1. Explain how to halt malware including viruses, spyware, worms, and Trojans.

2. Apply learned principles to resist modern social engineering and phishing attacks.
3. Describe how to defend against denial of service (DoS) attacks.
4. Explain the motivations of hackers.
5. Identify and select the appropriate security technologies and policies for a given scenario.

Required Course Materials (including any special technology)

Textbook

Computer Security Fundamentals, 5th Edition. Chuck Easttom. 2023. Pearson. ISBN-13: 978-0-13-798478-7 This course covers chapters 1 through 14.

Recommended Readings and Materials

<https://securityweekly.com/>
<https://krebsonsecurity.com/>
<https://proofpoint.com/us/blog>
<https://blog.erratasec.com/>
<https://threatpost.com/>
<https://securityboulevard.com/>
<https://nakedsecurity.sophos.com/>
<https://blogs.akamai.com/>
<https://securityledger.com/>
<https://grahamcluley.com/>

Help Desk

Students enrolled in any course through Notre Dame College can contact the help desk 24 hours a day, seven days a week. We recommend using the support site, which allows you to review support articles as well as request assistance. To contact the help desk:

- Support Site: <https://notre-dame-college.zendesk.com/hc/en-us>
- Create an email ticket: <https://notre-dame-college.zendesk.com/hc/en-us/requests/new>
- Support Phone Number: 1 (855) 651-4568

Course Requirements and Methods of Evaluation

Grade Allocation

| Assignment | Total Points | Percent of Total Grade |
|--|--------------|------------------------|
| Discussion Forums (8 @ 20 points each) | 160 | 27.9% |
| Quizzes (14 @ 10 points each) | 140 | 24.4% |
| Short Essays (7 @ 20 points each) | 140 | 24.4% |
| Final Project (paper = 100 pts; presentation = 34 pts) | 134 | 23.3% |

| Assignment | Total Points | Percent of Total Grade |
|--------------|--------------|------------------------|
| Total | 574 | 100% |

Grading Scale

| Letter Grade | Numerical Equivalent | Quality Points |
|--------------|----------------------|---------------------|
| A | 93–100% | 4.0 per credit hour |
| A- | 90–92% | 3.7 per credit hour |
| B+ | 87–89% | 3.3 per credit hour |
| B | 83–86% | 3.0 per credit hour |
| B- | 80–82% | 2.7 per credit hour |
| C+ | 77–79% | 2.3 per credit hour |
| C | 73–76% | 2.0 per credit hour |
| C- | 70–72% | 1.7 per credit hour |
| D | 65–69% | 1.0 per credit hour |
| F | 0–64% | 0.0 per credit hour |

Course Calendar

The instructor reserves the right to make changes in the schedule and assignments based on the needs of the class. For important College dates, including withdrawal dates, please refer to the academic calendar.

| Module | Learning Resources | Learning Activities & Assessments | Course Learning Outcomes |
|--------|--|---|--------------------------|
| 1 | Read Chapters 1, 2 Textbook Slides View Chapter videos <i>Read the latest articles published in the following site for the technology and security updates. The specific topics will change each week:</i> https://securityweekly.com/ | Discussion Forum Short Essay Quiz – CH 1 Quiz – CH 2 | 1, 4, 5 |

| Module | Learning Resources | Learning Activities & Assessments | Course Learning Outcomes |
|--------|--|--|--------------------------|
| 2 | <p>Read Chapters 3, 4 Textbook Slides View Chapter videos</p> <p><i>Read the latest articles published in the following site for the technology and security updates. The specific topics will change each week:</i> https://krebsonsecurity.com/</p> | <p>Discussion Forum Short Essay Quiz – CH 3 Quiz – CH 4</p> | 1, 2, 3, 4 |
| 3 | <p>Read Chapters 5, 6 Textbook Slides View Chapter videos</p> <p><i>Read the latest articles published in the following site for the technology and security updates. The specific topics will change each week:</i> https://proofpoint.com/us/blog</p> | <p>Discussion Forum Short Essay Quiz – CH 5 Quiz – CH 6</p> | 1, 4 |
| 4 | <p>Read Chapters 7, 8 Textbook Slides View Chapter videos</p> <p><i>Read the latest articles published in the following site for the technology and security updates. The specific topics will change each week:</i> https://blog.erratasec.com/ https://grahamcluley.com/</p> | <p>Discussion Forum Short Essay Quiz – CH 7 Quiz – CH 8</p> | 3, 4 |
| 5 | <p>Read Chapters 9, 10 Textbook Slides View Chapter videos</p> <p><i>Read the latest articles published in the following site for the technology and security updates. The specific topics will change each week:</i> https://threatpost.com/ https://securityledger.com/</p> | <p>Discussion Forum Short Essay Quiz – CH 9 Quiz – CH 10</p> | 2, 3, 5 |

| Module | Learning Resources | Learning Activities & Assessments | Course Learning Outcomes |
|--------|---|---|--------------------------|
| 6 | Read Chapters 11, 12 Textbook Slides View Chapter videos <i>Read the latest articles published in the following site for the technology and security updates. The specific topics will change each week:</i> https://securityboulevard.com/ https://blogs.akamai.com/ | Discussion Forum Short Essay Quiz – CH 11 Quiz – CH 12 | 4, 5 |
| 7 | Read Chapters 13, 14 Textbook Slides View Chapter videos <i>Read the latest articles published in the following site for the technology and security updates. The specific topics will change each week:</i> https://nakedsecurity.sophos.com/ | Discussion Forum Short Essay Quiz – CH 13 Quiz – CH 14 | 1, 5 |
| 8 | Review course content as appropriate to prepare the final project. | Final Project – Written Final Project – Presentation Due by FRIDAY at 11:55 PM | 1, 2, 3, 4, 5 |

Course Policies

Attendance Policy

For verification of enrollment in online courses, students must log in during Week 1 of each eight-week “D” term.

All students who have not logged in to their class by the end of the first week of each eight-week D term will be automatically dropped from their course.

All students enrolled in an online course at Notre Dame College must complete one of the following academically related activities within their online course in order to be marked as having attended and actively participated in the online course(s):

1. Post to a discussion board.
2. Submit an assignment.
3. Submit a quiz or exam.
4. Submit some other assessment as assigned.

Simply logging in to a course and navigating within the virtual classroom will not constitute participation; the student must complete one of the above academically related activities.

All students who have logged in to their course but who have not participated academically by the end of the second week of the D term will be automatically dropped from their course.

Makeup and Late Work Policy

In general, no late or makeup work is accepted. However, this is left to the discretion of the instructor.

Individual Instructor Policies

Individual instructor policies can be found in the Announcements section of the course.

About Notre Dame College

Notre Dame College Mission Statement

Notre Dame College of Ohio, a Catholic institution in the tradition of the Sisters of Notre Dame, educates a diverse population in the liberal arts for personal, professional, and global responsibility.

Notre Dame College Goals

Notre Dame College engages students, staff, and the wider community in the educational experience. Those who choose a Notre Dame education are encouraged to develop core values and skills. The objectives and requirements of this course further the values/skills related to thinking logically, analytically, and creatively; communicating effectively in speech and writing; demonstrating mastery of an academic discipline; and choosing wisely for health and well-being.

Institutional Learning Outcomes

Undergraduate students, as members of the Notre Dame College learning community, will be able to do the following:

- **Be Responsible:**
 - **Personally:** Choose a life that honors values, purpose, and accountability to self and others.
 - **Professionally:** Contribute to and enrich one's chosen discipline by acting morally and ethically.
 - **Globally:** Appreciate the world at local, national, and global levels and strive to have a positive impact.
- **Communicate Effectively:** Articulate thoughts and ideas clearly and effectively in written and oral forms in a variety of formats and situations.
- **Think Critically:** Exercise open-minded reflection and reasoning to analyze, evaluate, and make decisions.
- **Be Information Literate:** Research and evaluate information for accuracy, value, context, and meaning in order to formulate an argument.

- **Practice Ethical Inquiry:** Investigate and apply ethical reasoning in decision-making using ethical principles, including Catholic social teaching.

College Policies

Academic Policies and Procedures

See Notre Dame College Catalog for policies:

- **Incompletes**
- **Appealing a grade**
- **Course withdrawal policy**
- **Students with disabilities:** Students with documented learning disabilities must work with the director of the Learning Center who will provide the student with a letter for the instructor that documents the accommodation to be made. Refer to the catalog for the stated policy.
- **Campus Safety**

Personal Responsibility

Please take personal responsibility for your work and your future. You need to take responsibility for working diligently in your course, planning ahead for assignments and exams, doing your best, and taking responsibility for your performance. These are probably the most portable set of expectations that will transfer into your future professional world.

In particular, a simplistic personal responsibility statement for any course would include: 1) participate in assigned weekly activities; 2) know expectations and 3) accept the consequences for not meeting the expectations. In order for you to follow this, the following are the expectations for this class:

The instructor has the following expectations of the students:

1. To be willing to participate positively and constructively in your course
2. To understand and abide by the procedures, regulations and schedules described in this syllabus
3. To assume ownership of one's ideas, opinions, values, etc.

The students can have the following expectations of the instructor:

1. To be genuinely concerned about the student's ability to perform well
2. To remain faithful to the procedures, regulations and schedules described in this syllabus
3. To provide a course structure to encourage student learning

Academic Integrity Policy

Learning relies on integrity from all participants. Academic integrity means:

1. The completion or attempted completion of academic work (exams, quizzes, essays, exercises, discussion boards, etc.) for the course is the intellectual work of the

student and has been completed following all the guidelines set by the instructor; and

2. No alteration of any document relating to the grading process, including changing an instructor's grade book or changing answers on an exam after the time to complete the exam is over has occurred.

Examples of violation of academic integrity include but are not limited to: collaborating on an exam or assignment with any other person without prior approval from an instructor; submitting an assignment completed by another person for another class; submitting pre-written papers, such as papers downloaded through a commercial school-essay service; using unauthorized materials, prepared answers, pre-programmed digital devices with answers, written notes, or concealed information during an exam; submitting the same assignment for more than one course without prior approval of all the instructors involved. Two major categories of violations of academic integrity merit further discussion:

Plagiarism occurs when an individual presents the ideas, thoughts, or words of another as their own. Plagiarism includes but is not limited to: using phrases, sentences, or ideas from a published source, including the internet, without citing that source; representing another's content (in whole or in part) and submitting it as one's own work; rewriting or paraphrasing the work of another without giving credit to that person by citation.

Use of Artificial Intelligence (AI) tools, which includes the use of any generative AI tool, e.g., ChatGPT. This includes but is not limited to: alphabetic, or any form of written text; visual text such as artwork, tables, graphs diagrams or video; and any form of audio recording. The Academic Integrity Policy recognizes the use of AI in four categories describe below:

1. **Application of AI is not allowed.**
Any content designated under this category is prohibited from development by external tools of artificial intelligence.
2. **Application of AI is allowed with instructor approval.**
Any content designated under this category is allowed development by external tools of artificial intelligence if use has been approved by the instructor.
3. **Application of AI is allowed with references cited.**
Any content designated under this category is allowed development by external tools of artificial intelligence if use has been acknowledged through citations.
4. **Application of AI is allowed without consequence.**
Any content designated under this category is freely allowed development by external tools of artificial intelligence.

The instructor will determine the category of AI use permitted in the course and this may vary depending on the assignment. Consult the course syllabus (below) for the use of AI permitted in each course. When in doubt, consult with your course instructor as early as possible and before submitting your work.

Violation of the Academic Integrity Policy carries penalties that include but are not limited to: failure of a specific assignment, failure of a course, and creation of an Academic Integrity Incident report, which includes an Incident of Academic Integrity form detailing the offense,

filed with the Office of Academic Affairs. Multiple offenses carry escalating penalties. Note that although deference is given to the instructor to handle matters of Academic Integrity, such action does not preclude further disciplinary action under the College Judicial Procedure.

For further information on academic dishonesty, access the *Notre Dame College Catalog*.

Disruptive Student Policy

The College seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of Notre Dame College. Similarly, the College seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of Notre Dame College; and that does not threaten the physical or mental health or safety of members of the College community. As a student at Notre Dame College, you are expected to adhere to the Student Code of Conduct. To review the Student Conduct Code, please see the *Student Handbook*.

Students with Disabilities

Notre Dame College makes reasonable accommodations for students with disabilities. A qualified student with a disability may request support services from the Learning Center on a yearly basis. In order to receive services at Notre Dame College, students with disabilities must provide documentation which meets state and federal standards for indicating the presence of a disability.

Copyright Disclaimer

Materials associated with this course are subject to copyright laws and protections. These materials are intended for the viewing of only those students enrolled in this course and only for the time during which they are enrolled. The contents of this course are not to be copied and shared. Because instructional materials on the course website may be copyrighted, students may not permanently keep downloaded materials, or alter or distribute any materials on the course site, unless clearly directed to do so.