

Syllabus: CIS 4204 Ethical Hacking

Semester Spring 2026

Note:

- The course description, course objectives, and learning outcomes are under review and may be changed during the semester.

Course Information

- **Course Number and Title:** CIS 4204 Ethical hacking
- **Section:** 01
- **Credit Hours:** 3
- **Academic Term:** Spring 2026

Instructor Information

- **Instructor:** Dr. Arijet Sarker (<https://arijetsarker.github.io/>)
- **Office Location:** BARC-1188
- **Office Hours:** MTR 4 PM – 5 PM, or by appointment.
- **Email Address:** asarker@floridapoly.edu

Course Details

- **Delivery mode:** face to face, @ IST-1032, meet on TR 09:30 AM - 10:45 AM
- **Official Catalog Course Description:** This course explores the topic of Computer Security from the hacker's perspective. Latest hacking tools are explored and countermeasures are proposed. Topics covered: penetration testing, reconnaissance, scanning, exploitation, backdoors, rootkits, viruses, worms, packet sniffers, social engineering, phishing, Denial of Service.
- **Course Pre and/or Co-Requisites:** CIS 4367 Computer Security
- **Required Text:** "Penetration Testing: A Hands-On Introduction to Hacking", by Georgia Weidman, ISBN-13: 9781593275648, Published by No Starch Press.
- **Additional Text:** "Ethical Hacking: A Hands-on Introduction to Breaking In", by Daniel G. Graham ISBN-13: 9781718501874, Published by No Starch Press and "CEH v11 Certified Ethical Hacker Study Guide", by Ric Messier, ISBN: 978-1-119-80028-6, Published by Sybex A WILEY Brand.
 1. **Equipment and Materials:**
 - **Hardware:** A USB 3.0 Flash drive with capacity at least 128GB
 - **Software:** Kali Linux and VirtualBox.
- **Course Objectives:**
 1. Students will be introduced to computer systems vulnerabilities.
 2. Various attack vectors on different computing platforms will be taught.
 3. Students will learn how to conduct penetration testing to isolated test networks and computer systems.
- **PLOs (Program learning outcomes) of CS:**
 1. **Analyze** a complex computing problem and to apply principles of computing and other relevant disciplines to identify solutions.
 2. **Design, implement, and evaluate** a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
 3. **Communicate** effectively in a variety of professional contexts.

4. **Recognize** professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
5. **Function** effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
6. **Apply** computer science theory and software development fundamentals to produce computing-based solutions

- **Course Learning Outcomes and Alignment with Program Outcomes:**
 1. Recognize computer systems vulnerabilities. (**PLO: 4**)
 2. Identify the various vectors of attacks on different computing platforms. (**PLO: 1**)
 3. Construct penetration testing to isolated test networks and computer systems. (**PLO: 6**)

Academic Support Resources

- **Library:** Students can access the Florida Polytechnic University Library through the University website and [Canvas](#), on and off campus. Students may direct questions to Academic Success Center success@floridapoly.edu or by email, library@floridapoly.edu.
- **Peer Learning Strategists:** These are specially trained student leaders who help their peers strategize approaches to course content and work through solution methods. PLS students work in collaboration with the courses they support so the content and methods are aligned with your instructors' expectations. The PLS room is located on the first floor of the IST in the center hallway.
- **Writing Center:** Located on the second floor of the IST (2059/2061), the Writing Center helps students to develop their writing and presentation skills. Consultations are available in person and virtually. For more detail, visit <https://floridapolytechnic.libguides.com/writingservices>.

Course Schedule (Subject to Change)

Week	Topic, Subtopics (Exams, home-works, labs assessment Software/tools will be used for In-class demonstrations)	Assessments
1	Security Fundamentals	
2	Networking Foundations Environment Setup	
3	Footprinting and Reconnaissance	Quiz/ Individual Lab Assignments -1
4	Scanning Networks	
5	Enumeration	
6	Enumeration	Quiz/ Individual Lab Assignments – 2
7	Vulnerability Scan/Analyses	

8	MIDTERM	
9	---- SPRING BREAK -----	
	Vulnerability Scan/Analyses	Quiz/ Individual Lab Assignments - 3
11	Gaining Access and Exploitation	
12	Gaining Access and Exploitation	Quiz/ Individual Lab Assignments – 4
13	Post-Exploitation	
14	Post-Exploitation	
15	Project Assessment - Review GroupWise	Quiz/ Individual Lab Assignments – 5
16	Project Assessment - Review GroupWise	
17	Final Exam	

Course Policies

Attendance

- This class is a Face-to-Face mode. It means students have to attend all class meetings in-person. It means it is a traditional class teaching like. ([Please read Basic rules in following university policies section](#)). Exceptions to any attendance requirements may be made on a case-by-case basis, only on medical ground. (University Policy, FPU-5.0010AP).
- Attendance will be taken in class using Access code on Canvas – shown by instructor in each class. Students ask and/or verify his/her attendance with Instructor and can see that on Canvas. Please see detail general university level and CS department level attendance policy below.

Students Feeling Sick

Students should not come to class if they are feeling ill, particularly if experiencing symptoms of COVID-19, or if you have been directed by a health professional to quarantine. Students who are experiencing an emergency situation that aligns with an academic exercise of consequence (e.g./a Common Exam) should work with CARE Services at care@floridapoly.edu

Late Work/Make-up work

- To make up an exam, signed document from authority (such as doctor, clinic, law enforcement officers, etc.) is needed.
- Late work is not accepted with exceptions of documented excuses.

- Other makeup work need approval from the instructor and request in advance.

Grading Scale

(See also [University Grading Policy](#)).

A : above 93%

A- : 90% - 92%

B+ : 87% - 89%

B : 83% - 86%

B- : 80% - 82%

C+ : 77% - 79%

C : 73% - 76%

C- : 70% - 72%

D+ : 67% - 69%

D : 63% - 66%

D- : 60% - 62%

F : below 60%

Assignment/Evaluation Methods

Assignment/Evaluation methods	Weight
Group Projects	20%
Attendance	2%
In-Class Activities	13%
Quiz/ Individual Lab Assignments	10%
Mid exam	25%
Final Exam	30%
Total	100%

University Policies

Reasonable Accommodations

The University is committed to ensuring equal access to all educational opportunities. The University, through the Office of Disability Services (ODS), facilitates reasonable accommodations for students with disabilities and documented eligibility. It is the student's responsibility to self-identify as a student with disabilities and register with ODS to request accommodations.

If you have already registered with ODS, please ensure that you have requested an accommodation letter for this course through the [ODS student portal](#) and communicate with your instructor about your approved accommodations as soon as possible. Arrangements for testing accommodations must be made in advance. Accommodations are not retroactive.

If you are not registered with ODS but believe you have a temporary health condition or permanent disability requiring an accommodation, please contact ODS as soon as possible.

The Office of Disability Services (ODS):

DisabilityServices@floridapoly.edu

(863)874-8770

The Access Point

[ODS website: www.floridapoly.edu](#) > Student Affairs > Health Wellness > Disability Services

Accommodations for Religious Observances, Practices and Beliefs

The University will reasonably accommodate the religious observances, practices, and beliefs of individuals in regard to admissions, class attendance, and the scheduling of examinations and work assignments. (See [University Policy](#).)

Title IX

Florida Polytechnic University is committed to ensuring a safe, productive learning environment on our campus that prohibits sex discrimination and sexual misconduct, including sexual harassment, sexual assault, dating violence, domestic violence and stalking. It is important for you to know that there are resources available if you or someone you know needs assistance. You may speak to your professor, but your professors have an obligation to report the incident to the Title IX Coordinator. It is an educational goal that you feel able to share information related to your life experiences in classroom discussions and in one-on-one meetings. However, it is requirement for university employees to share information with the Title IX Coordinator regarding disclosure. However, please know that your information will be kept private to the greatest extent possible. You will not be required to share your experience. If you want to speak to someone who is permitted to keep your disclosure confidential, please seek assistance from the Florida Polytechnic University [Ombuds Office](#), BayCare's Student Assistance Program, 1-800-878-5470 and locally within the community at [Peace River Center](#), 863-413-2707 (24-hour hotline) or 863-413-2708 to schedule an appointment.

Academic Integrity

All students are expected to adhere to the highest standards of academic integrity. Violations of academic integrity include actions such as cheating, plagiarism, use of unauthorized resources, illegal use of intellectual property, and inappropriately aiding other students. Such actions undermine the central mission of the university and negatively impact the value of your Florida Poly degree. It is critical that students take a professional approach to their academic work. The faculty and administration take academic integrity very seriously. Suspected violations will be fully investigated, possibly resulting in an academic integrity hearing and sanctions against the accused student if found in violation. Sanctions range from receiving a zero on the exam or assignment, to expulsion from the university. Repeat offenders are subject to more severe sanctions and penalties. Do not compromise your integrity for a perceived short-term gain. More information about Florida Poly's academic integrity policies and procedures can be found here: <https://floridapoly.edu/wp-content/uploads/2017/07/FPU-5.005-Academic-Integrity-7.29.14.pdf#search=academic%20integrity>

Recording Lectures

Students may, without prior notice, record video or audio of a class lecture for a class in which the student is enrolled for their own personal educational use.

Recordings may not be used as a substitute for class participation or class attendance. Recordings may not be published or shared in any way, either intentionally or accidentally, without the written consent of the faculty member. Failure to adhere to these requirements is a violation of state law (subject to civil penalty) and the student code of conduct (subject to disciplinary action).

Recording class activities other than class lectures, including but not limited to lab sessions, student presentations (whether individually or part of a group), class discussion (except when incidental to and incorporated within a class lecture), and invited guest speakers is prohibited.