

ITS19900 – Introduction to Cybersecurity for All Summer 2022

Instructor: Ronald Rabello DeCastro		Phone: (219) 989-2741
Office: POTT 230		Course Time: T / R 12:30 PM – 1:45
E-mail: rdecastr@pnw.edu		Course Location: PWRS130
Office Hours:	TBD	
Prerequisites:	None	
Emergency Preparedness:	https://www.pnw.edu/police/emergency-preparedness/	
Academic Integrity	https://www.pnw.edu/dean-of-students/student-code-of-conduct/	
Learning Materia	Lecture and lab instruction will be distributed by instructor.	
Course Description:	This course introduces students to the foundational concepts, principles, and tools of cybersecurity to students with or without technical background. The course covers the basics of the cyber systems, computer networks, cybersecurity principles, ethics, law and regulations, vulnerabilities, threats, trust establishment, ubiquitous connectivity, data security, system security, adversarial thinking, and risk management..	
Course Outcomes:	<p>Core learning outcomes:</p> <ol style="list-style-type: none"> 1. Comprehend the fundamentals of cybersecurity principles, concepts, ethics, law and regulations, necessary to determine security requirements and mechanisms. 2. Understand that cybersecurity has broad implications and ethical reflection and judgment are required. 3. Understand the cybersecurity law and regulations, economic concerns and risk management trade-offs involved in making cybersecurity decisions from various stakeholder perspectives. 4. Be able to challenge assumptions and practice thinking about opposing forces and employ techniques to analyze threats, vulnerabilities, and attacks. 5. Be able to evaluate the tools used to connect cyber-physical systems and practice using the encryption techniques needed to secure data across the cyber space. 	
Software/Hardware Requirements:	The student must have the need computer and network technology required by the course. Virtual Machine Programs: VMs will be provided for labs	
E-Mail:	Email is the preferred method of communication.	

Assignments and Determination of Course Grade:

Quizzes	100%
Total	100%

Grading scale is: >90% = A, 89-80% = B, 79-70% = C, 69-60% = D, 59% and below = F.
 Note: Grades for the course will be determined by adding the weighted totals of the above categories together and assigning grades based on the grand total. It should be noted that anyone

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failing the final exam and getting a "C" or less on the other exams should expect only a "D" or "F" in the course. Moreover, students are expected to complete the project; unfinished projects are sufficient cause to receive a grade of "F".

Attendance Policies: Attendance is **required when lecture is given**. Attendance and class participation will be taken into account as part of a student's overall grade. The instructor reserves the right to administratively drop students who are excessively absent.

Assignment Policies: Assignments should be submitted by the due date.

Resources and Support for Academic Success

University students encounter setbacks from time to time. If you encounter difficulties and need assistance, it's important to reach out. Consider discussing the situation with an instructor or academic advisor. Many PNW resources that assist with wellness and academic success are listed below. If you are in immediate crisis, please call the National Suicide Prevention Lifeline at 1-800-273-TALK (8255).

- **Accessibility** - Purdue University Northwest is committed to making learning experiences accessible. If you anticipate or experience physical or academic barriers, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the DAC at: dac@pnw.edu or by phone: (219) 989-2455. Visit the [DAC website](#)¹ for more information.
- **Mental Health/Wellness** - Purdue University Northwest is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, confidential services are available. For help, contact the Counseling Center at (219) 989-2366 or visit at 2250 173rd Street on the Hammond Campus and TECH 101 in Westville. Visit the [Counseling Center website](#)² for more information.
- **Basic Needs Security** - Any student who faces challenges securing food, housing, or other basic needs is urged to contact the Dean of Students for support at dos@pnw.edu or (219) 989-4141 (Hammond) or (219) 785-5230 (Westville). Student Advocates are also available to assist students 8:00am-4:30pm in Hammond (SULB 313) or Westville (LSF 103). Visit the [Dean of Students website](#)³ for more information.
- **Veterans** – Purdue University Northwest is committed to creating a community of support for veterans, active-duty service members and their families. Visit the [Veterans Services website](#)⁴ for more information

¹ <https://www.pnw.edu/disability-access-center/>

² <http://www.pnw.edu/counseling/>

³ <https://www.pnw.edu/dean-of-students/get-help/>

⁴ <https://www.pnw.edu/dean-of-students/student-resources/veteran-services/>

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- **Academic Support** - All PNW students have access to academic support services for free.
 - **Tutoring** - Tutoring is available by appointment or during walk-in hours for most major subjects. Visit the [Tutoring website](#)⁵ for more information.
 - **Writing Center** - Get help with any writing task from trained peer tutors; assistance available in-person or virtually. Visit the [Writing Center website](#)⁶ for more information.

University Policies

As a student, understand these [university policies](#)⁷, including non-discrimination, academic integrity, and others relevant to your educational experience.

Course Schedule: The instructor reserves the right to change, adapt, or modify assignments, projects, labs, and topics during the course including due dates and delivery times. The instructor also reserves the right to switch lecture and lab sessions.

WEEK	Readings, Lectures, Media	Labs and Quiz
Week 1	Cybersecurity Principles – Lecture 1	
Week 2	Cybersecurity Ethics, Law, Regulations – Lecture 2	Quiz 1
Week 3	Vulnerabilities, Threats, and Attacks – Lecture 3	Quiz 2
Week 4	Introduction to Cryptography – Lecture 4	Quiz 3
Week 5	Risk Management – Lecture 5	Quiz 4
Week 6	Computer System Basics (OS, CPU) – Lecture 6	Quiz 5
Week 7	Computer Networking Fundamentals – Lecture 7	Quiz 6
Week 8	Network Security Fundamentals – Lecture 8	Quiz 7
Week 9	Data Security Concepts – Lecture 9	Midterm
Week 10	Data Security Attacks and Controls – Lecture 10	Quiz 8
Week 11	Software and System Security Controls – Lecture 11	Quiz 9
Week 12	Security and Threat Modeling – Lecture 12	Quiz '0
Week 13	Economical Impact of Cybersecurity – Lecture 13	
Week 14	Cybersecurity Penetration Testing Process – Lecture 14	
Week 15	Security Policies and Security Programs – Lecture 15	Final
Week 16		

⁵ <https://www.pnw.edu/student-academic-support/>

⁶ <https://www.pnw.edu/writing-center/>

⁷ <https://www.pnw.edu/dean-of-students/policies/>