



UNIVERSITY of HAWAII*
WINDWARD
COMMUNITY COLLEGE

ICS 171 (CRN 62028)
Introduction to Computer Security (3 credits)
Summer 2021 (23 May 2022 ~ 12 August 2022)

WINDWARD COMMUNITY COLLEGE MISSION STATEMENT

Windward Community College offers innovative programs in the arts and sciences and opportunities to gain knowledge and understanding of Hawai'i and its unique heritage. With a special commitment to support the access and educational needs of Native Hawaiians, we provide Ko'olau region of O'ahu and beyond with liberal arts, career and lifelong learning in a supportive and challenging environment — inspiring students to excellence.

Class Details

INSTRUCTOR: Randal Pacheco
OFFICE: By Appointment **OFFICE HOURS:** See below
TELEPHONE: 808-225-2823 **EMAIL:** randalp@hawaii.edu

Office Hours: Since this class is online, any “office hours” will need to be coordinated ahead of time. I check email frequently during the day - on all correspondence, please add the words “ICS 171 -” to the subject line (this helps me sort and answer your email quicker). I endeavor to answer all emails within 2-4 hours during the regular work week (most times faster). Once coordinated, we can “meet” via skype or other application. If you need to physically meet with me, let me know via email and we can schedule a mutually acceptable time. You can reach me during the day at 808-225-2823, please leave a message if I do not answer. Generally, I do everything remotely via video chats using Google Meet.

Key Dates: **Final Weeks:** August 12, 2022 (Final will be complete the course)
 Withdrawal deadline: July 11, 2021

ICS 171 Course Details

Welcome to ICS 171 – Introduction to Computer Security. In this course we will be exploring the tools, techniques, and principles of Information security, computer defense, cyberspace operations, and information assurance. This class will examine information security topics and related issues across many disciplines/domains including: national, global and defense infrastructures, vulnerability assessment, information and electronic warfare, military/corporate electronic espionage, psychological operations, threat intelligence, physical defense, perception management, network attack/defense, and risk management frameworks. The main goal in this course is to expose students to the vulnerabilities and liabilities of dealing with Information Technology in any form as well as survey the scope of IT security topics. This class will prepare the student for ICS 281 (Ethical hacking) and ICS 282 (Computer Forensics)

Course Description: Examines the essentials of computer security, including risk management, the use of encryption, activity monitoring, intrusion detection; and the creation and implementation of security policies and procedures to aid in security administration. (3 hours lecture). Pre-Requisite(s): ICS 184 with a C or better, or concurrent enrollment, or consent of the instructor.

Student Learning Outcomes: Student learning outcomes for this course are:

- List the first principles of security and describe why each principle is important to security and its relationship to the development of security mechanisms and security policies
- Describe why good human machine interfaces are important to system use, the interaction between security and system usability and the importance for minimizing the effects of security mechanisms
- Analyze common security failures and identify specific design principles that have been violated, and the needed design principle, when given a specific scenario
- List the fundamental concepts of the Information Assurance/Cyber Defense discipline and describe how they can be used to provide system security
- Identify the elements of a cryptographic system and describe the differences between symmetric and asymmetric algorithms, which cryptographic protocols, tools and techniques are appropriate for a given situation, and implementation issues

ASSESSMENT TASKS, GRADING, AND SUBMISSION POLICIES

Course Outline: Course grading breaks down as follows using points: (*No plus or minus grades given, no "rounding"*) because this course is designed using Mindtrap Cengage Online. Subject to change based on the course.

| | |
|-------------|-----|
| 5050 - 6312 | "A" |
| 3787 - 5049 | "B" |
| 2524 - 3786 | "C" |
| 1262 - 2523 | "D" |
| Below 1261 | "F" |

Exams format: The final (will be completing the online course). Because this course is designed around an online structure, you should complete the full course in order to get ready for the Security + exam.

Projects: There will be projects that will be released during this class; specific requirements will be placed on the Lualima site. Project could focused on the media view of IT security and Information Warfare. Other projects will be a group project based looking at a controversial issue within the IT world. Projects will require independent research.

Quizzes: There will be quizzes covering the book material – these will be online and done electronically within the Course.

Papers: There will be papers that will be required in this class – Papers could be on current event items found in the news (you will be able to select the articles that interest you). Another paper will be a short "how to" article that you will write for use by others. Exact requirements will be released during class.

Returns: The instructor endeavors to return all graded assignments to the students within two weeks of receipt (most times its less than 1). Exams may take up to 2 weeks to grade and return.

Late Policy: If a student will miss a deadline or due date due to work, deployment, medical or personal problems, etc., they **MUST** notify the instructor ahead of time. All missed deliverables will be given a grade of zero, unless prior arrangements are made with the instructor. This should NOT be a common occurrence.

Incompletes: No *Incompletes* or *N* grades will be given except in the most extreme of emergencies (at the Instructor's discretion – e.g.: death in the family).

Access: You should be logging into Laulima at least once a week and completing the required weekly assignments. It is possible to get ahead, but you should still endeavor to log in at least weekly. Students bordering on in-between grades will be given the higher grade if in the opinion of the instructor have been showing a regular presence on the Laulima system.

COURSE PLAN

Schedule A schedule of assignments and due dates will be posted during the first week of class on the Laulima site.

Handouts: There may be various handouts given to students during the semester. These items will be emailed and posted to Laulima. These handouts cover material that could be covered on an exam.

LEARNING RESOURCES

All assignments will be due on **Sunday nights at 11:55 pm**.

MindTap: In this course we will be using Cengage's MindTap tool as our digital textbook. There will be a direct link to MindTap from our Laulima site. A score of 5979 (Subject to change) points will earn you full credit for MindTap assignments.

Learning Exercises: The Learning Exercises for Security+ will be simulations that you will complete in MindTap. For other topics, there will be videos/presentations that you will following with and either submit a file or answer some questions. These Learning Exercises are to help you learn the various skills or concepts of the topics we are covering.

Homework Assignments: The Homework Assignments for Security+ will be Simulation in MindTap. Other topics will have a set of instructions for you to complete with a file to submit, or questions to answer.

I will also upload to Laulima other sources for you to look over. Check the schedule for chapters covered and timing.

Laulima: Laulima is an online course management system and will be used extensively in this course. The class schedule, assignments, and announcements will be posted and administered through Laulima. (<https://laulima.hawaii.edu/portal>). It is IMPORTANT to check your *email*, the *Course Schedule*, and the *Announcements* page regularly.

Research Project: Research projects will be assigned according to the subject of Security +. From time to time you will be assigned a project to do some research be it apart of the subject or what is happening in the world today.

Required Software and System. Your system should have network (internet) connectivity and be able to support MS word (or any equivalent word processing application that can read, edit, and save MS word files) and Adobe Reader (free download from the Internet) – but compatible software is acceptable with the understanding that you must be able to troubleshoot the software issues yourself. You will need to some software to complete your lab assignments. You do need “administrative” level access to your system as some tools will not work at the regular “user” level. Instructions to download and the use the software will be included in the lab instructions.

Quick Links:

| | |
|--|---|
| | |
| Windward Community College | http://www.wcc.hawaii.edu OR http://windward.hawaii.edu |
| WCC account activation (to use local systems) | https://accounts.wcc.hawaii.edu/secure/index.php |
| Laulima | https://laulima.hawaii.edu |
| Library Learning Commons | http://library.wcc.hawaii.edu |
| Cengage MindTap | https://www.cengage.com/mindtap/ |

Instructor Expectations and Principles:

- 1) It is your personal responsibility as an online student to ensure that you have an access to a reliable computer with the Internet connection.
- 2) It is the burden of the student to demonstrate mastery of course material to the instructor.
- 3) If you are having problems – ask! Don't let confusion grow. I will assist you as needed, but you still must get the correct solution before you get credit – I will not do your thinking for you.
- 4) You can work with others, BUT, ensure you must submit your own work - do not “work together” on a solution then make copies for each person to turn in. If you “work together” to gain understanding, ensure you separate before you prepare your submission – if the submissions look too similar you may be asked to prove that it is your work.
- 5) Don't let other students copy – it is your responsibility to ensure that your work is not made available to others. Academic dishonesty “F”s often times comes in pairs.
- 6) Any activity that diminishes the instructor's ability to analyze and rate a student's individual knowledge of course material is prohibited.
- 7) Complete assignments on time. Assignments should be professional and meet the highest standards with regards to: logic, research, and content, grammar, and spelling.
- 8) Be prepared for tests and exams. This can be accomplished by working all assignments and reading ahead.

- 9) Think before putting pen to paper (or fingers to keyboard). Analysis is key; thinking and understanding prior to attempting to solve a problem is critical.
- 10) Time goes by very quickly and there is a lot of work to be accomplished. You will likely be putting in anywhere from 10-12 hours a week doing assignments, reading, or doing research. Unexpected things happen often in life – do your best to get ahead so you can more easily deal with these events. Good time management and study discipline will be critical for keeping up in the class and doing well.
- 11) Communicate early and often with the instructor – and discussions of material (not exams) with other students is highly encouraged.
- 12) If you have problems or issues (e.g. illness, housing, death in the family, etc.) during the semester, let me know as soon as possible; we can work together to get through this class. But I can't help you if I don't know about it.

Conduct and Academic Dishonesty Policies

Online Conduct: Everything done electronically on the university systems or via email can be considered public record and you are part of the larger, global, online community. As such, it is expected that all students demonstrate appropriate language, behavior, respect, and understanding that would prevail in any campus situation. All students should do their part to ensure a pleasant and safe online environment for others – including:

- a) Watching for virii, worms, bots, etc. Do not allow these items, or any other type of code that disrupts or interrupts/interferes with other users' use of the online environment.
- b) Showing respect for all faculty, students, staff regardless of age, race, gender, religion, national origin, veteran's status, disabilities, sexual orientation, etc.
- c) Being honest. Misrepresentation of any kind will not be tolerated. This includes any type of identity theft or intentional electronic "fakery" (spoofing, relaying, etc.)
- d) Being polite. Ensure that any content submitted electronically is free from harmful, threatening, libelous, and abusive content. This also includes profanity.

Submissions The Internet is a great research tool and it should be utilized as often as possible as a study aid; but please ensure that you **DO YOUR OWN WORK**. Turning in material that is plagiarized is a serious offense. Study and use the information found on the internet (and any other sources) to help you understand, but when it comes time to do your work – use your own words, and do not copy, cite, or attempt to "paraphrase" or "rephrase" someone else's work. If you truly understand the material, you will be able to use your own words and examples. Also, consider your source when reading information on the Internet – not everything out there would be considered a "reputable" source. Be aware that all submitted items can be run through academic tools which scan for and can catch, plagiarism attempts.

Academic Dishonesty: The penalties for academic dishonesty are explicitly noted in the Windward Community College student conduct code. Students are expected to maintain the highest moral and ethical standards. Any student, who cheats, lends assistance to others or hands in work that is not his/her own, will be penalized as outlined in the student conduct code. Furthermore, each student is responsible for ensuring that their work is not made available to others for study or duplication. Ignorance of this policy is no excuse of any academic dishonesty. Ensure your work is your own. Copyright infringement or violation of patent, trademark, proprietary information, and/or confidentiality agreements will not be tolerated. Consequences include (but are not limited to)

- 1st offense – a "0" for the assignment for all involved and a written warning
- 2nd offence – an "F" for the class

**The instructor reserves the right to notify the administrative offices of any academic dishonesty violations – this can incur separate consequences such as probation or worse.*

DISABILITIES ACCOMMODATION STATEMENT

If you have a physical, sensory, health, cognitive, or mental health disability that could limit your ability to fully participate in this class, you are encouraged to contact the Accessibility Counselor to discuss reasonable accommodations that will help you succeed in this class. Roy Inouye can be reached at (808) 235-7448, royinouy@hawaii.edu, or you may stop by Hale Kāko'o 106 for more information.

TITLE IX

Title IX prohibits discrimination on the basis of sex in education programs and activities that receive federal financial assistance. Specifically, Title IX prohibits sex discrimination; sexual harassment and gender-based harassment, including harassment based on actual or perceived sex, gender, sexual orientation, gender identity, or gender expression; sexual assault; sexual exploitation; domestic violence; dating violence; and stalking. For more information regarding your rights under Title IX, please visit: [https://windward.hawaii.edu/Title IX/](https://windward.hawaii.edu/Title_IX/).

Windward Community College is committed to providing a learning, working, and living environment that promotes personal integrity, civility, and mutual respect and is free of all forms of sex discrimination and gender-based violence, including sexual assault, sexual harassment, gender-based harassment, domestic violence, dating violence, and stalking.

If you or someone you know is experiencing any of these, WCC has staff and resources to support and assist you. To report an incident of sex discrimination or gender-based violence, as well as receive information and support, please contact one of the following:

Kaahu Alo, Student Life Counselor & Designated Confidential* Advocate for Students

Phone: (808) 235-7354

Email: kaahualo@hawaii.edu

Office: Hale 'Ākoakoa 232

**confidentiality is limited*

Desrae Kahale, Mental Health Counselor & Confidential Resource

ALTERNATE CONTACT INFORMATION

If you are unable to contact the instructor, have questions that your instructor cannot answer, or for any other issues, please contact the Academic Affairs Office:

Location: Alakai 121

Phone: 808-235-7422

Email: wccaa@hawaii.edu