

## Course Information

 <p><b>POINT<sup>19</sup> LOMA<sup>02</sup></b> <b>NAZARENE UNIVERSITY</b> <b>School of STEM</b></p>	<p><b>Computer Information Technology</b></p> <p><b>CIT2034 Fundamentals of Computer Hardware &amp; Operating Systems</b></p> <p><b>4 Units</b></p>
<p><b>Fall 2024</b></p>	

## Instructor Information

<b>Time and Place:</b>	<b>Wednesday evenings 6:00PM – 10:00PM PT</b> <b>Grossmont College, Bldg 34, Room 170</b>
<b>Instructor:</b>	Judie Heineman, Ed.D.
<b>Email:</b>	<a href="mailto:judieheineman@pointloma.edu">judieheineman@pointloma.edu</a>
<b>Phone/Text:</b>	619.746.3570
<b>Final Exam:</b>	Oct. 23. 9:00 pm

## Office Hours

By appointment at a time mutually convenient to the student and the instructor.

Students are **welcome and encouraged to contact me** via e-mail, phone, and/or Pronto to schedule an appointment. Appointments can be face-to-face (F2F) in our classroom (e.g., before class), on the phone, or via a video conference call (Zoom or Pronto).

## Textbook

Text is included as an electronic copy in the course material (via uCertify).

- For a hardcopy of the textbook see: Docter, Q., & Buhagiar, J. (2022). *CompTIA A+ Complete Study Guide* (5th ed.). Wiley & Sons. (ISBN: 978-1-119-86291-8)
- For APA formatting see the Ryan Library web page and the [Purdue Online Writing Lab](#).

## Needed Supplies

You must have access to a laptop and textbook (or an electronic version of the textbook) -- **which must be brought to each F2F class session**. This laptop should be configured, preferably with Windows OS, with at least 50GB of available storage and have the ability to add software, a high speed Internet connection (i.e., WiFi), Microsoft Word, and an Image editor (Microsoft paint or Mac image viewer). You will also need the Chrome browser for our weekly in-class exams. Chrome is the preferred browser for using Honorlock, the exam proctoring tool.

# Course Description

The CIT2034 course is designed to introduce the fundamentals of hardware and networking concepts, computer operating systems, and network security. In addition, students will acquire hands-on experience by working with hardware, networking, and operating system simulators. The course aligns with topics covered in CompTIA's A+ Core 1 and Core 2 (220-1101 and 220-1102) certification exams.

## Philosophy and Approach

Research in learning theory shows that students who learn technology effectively must be actively involved in the process, not just passive listeners/observers. In particular, in order to really learn and understand technological ideas and concepts, one must become deeply involved in activities such as exploring, discussing, analyzing, explaining, testing, and evaluating. To do this you need good problems to solve, interaction with others on solutions, and opportunities to write your conclusions and present ideas. We will use all of these approaches in our class.

The learning experience and background of the students in CIT 2034 can vary widely. This means that different students will need to spend different amounts of time to learn the material. To help assist in this process, the class is designed as a hybrid class. Students will be completing reading, pre-tests, lab simulations, and optional video activities online. This will allow students to spend the amount of time needed to learn the basics before we engage in activities in class. Class time will be used for questions and answers, hands-on lab activities, highlighting more difficult concepts, student presentations, and closed-book quizzes/examinations.

## Objectives

The course is designed to help you:

- Acquire knowledge and develop an understanding of foundational concepts and problems solving skills for hardware and networking technologies.
- Understand and address 28 of the CompTIA A+ Core 1 and Core 2 exam objectives.

## Program Learning Outcomes

The Point Loma Nazarene University (ADC) graduate is prepared for expanded roles within his or her organization through enhanced abilities to:

1. Identify and evaluate information technology infrastructure necessary to meet an organization's business needs.
2. Develop, plan and evaluate appropriate processes for managing information systems and information technology projects.
3. Design, develop, and evaluate software solutions to meet an organization's business needs.
4. Apply their technical knowledge to solve problems.
5. Speak about their work with precision, clarity, and organization (Oral Communication)
6. Write about their work with precision, clarity, and organization (Written Communication)
7. Collaborate effectively in teams.
8. Identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand (Information Literacy).
9. Gather relevant information, examine information and form a conclusion based on that information (Critical Thinking).
10. Understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats (Quantitative Reasoning).
11. Understand the professional, ethical, legal, security, and social issues and responsibilities that come with the implementation and use of information technology.

## Course Learning Outcomes

The following student learning outcomes will be met in this course:

- 1. Configure hardware and BIOS/UEFI settings on a PC.
- 2. Explain, compare and contrast motherboard, processor, memory, and expansion card types.
- 3. Install and configure various hardware components, display devices and network components in a PC.
- 4. Compare and contrast various network architectures, connection types, and network protocols.
- 5. Explain and select appropriate computer and network security options.
- 6. Compare and contrast various features and requirements of Microsoft Operating systems (Windows 10 and Windows 11)
- 7. Apply appropriate Microsoft command line tools.
- 8. Install and configure Windows networking on a client/desktop.
- 9. Identify common features and functionality of the Mac OS and Linux.
- 10. Identify common security threats and vulnerabilities as well as compare and contrast common prevention methods.

## Grading

**Students must earn 60% or more in the course to earn a passing grade of "D-" but must maintain a 2.0 GPA in the CIT program.**

Your grade for the course is based on:

Grading		
Activity	Points	Percentage
Welcome Week Assignments (Week 1)	30	2%
Chapter Practice Quizzes (13)	260	16%
Weekly in-class exams (6)	360	22%
Weekly in-class labs (6)	180	11%
Online Labs (98)	294	18%
Weekly Questions and/or Online discussion posts (7)	35	2%
Classroom Presentations (1)/Papers (2)	75	5%
Official Course Evaluation (1)	10	1%
Final Exam (1)	420	25%
Totals	1664	100%

The grading scale for the course, in percentages of the maximum points in class is:

A	92.50 - 100%	C	72.50 - 77.49%
A-	90.00 - 92.49%	C-	70.00 - 72.49%
B+	87.50 - 89.99%	D+	67.50 - 69.99%
B	82.50 - 87.49%	D	62.50 - 66.49%
B-	80.00 - 82.49%	D-	60.00 - 62.49%
C+	77.50 - 79.99%	F	0 - 59.99%

# Credit Hour Information: Distribution of Student Learning Hours

It is anticipated that you will spend a minimum of 37.5 participation hours per credit hour in your course. The estimated time expectations for this course are shown below:

Credit Hours	
Assignments	Hours
Reading	42
Videos and Chapter Highlights	21
Quizzes and Quiz Preparation	12
Online Labs	24
In-Class (F2F) Learning and Labs	35
Presentation and Papers Preparation	10
Final Exam Preparation	6
TOTAL Hours	150

## Practice Reading Quizzes

After each chapter reading, there will be a quiz to help you self-assess your reading comprehension and understanding. **These practice reading quizzes are available online and must be completed before the start of class.** You will be allowed two attempts on each of the reading quizzes.

## Weekly Exams

Weekly exams will be given in class and will be "closed notes" and "closed book" The weekly exams are more comprehensive than the reading quizzes and will test your understanding of the chapter material covered over the week. Again, the weekly exams will be taken online in class. You *must have a laptop* in class available (with WiFi access) to take these quizzes. **The use of a virtual machine is not allowed during exams.**

## Online Labs

Each chapter will have a series of online labs that will simulate various activities discussed in the chapter. Students should complete these labs prior to class.

## In-Class Labs

Each week, a series of hands-on labs will be explained and started in class. Students will need to complete a minimum level of activity on the lab during class and then complete the lab write-up after class and submit their findings and documented activities prior to the next class session.

## Presentations

Each student will be assigned two presentations to be given in specific weeks of the class. The date and topic of the presentation will be assigned by the instructor or students will self-select their time and topic based on the instructor's guidance. The presentation length will be between 5 and 10 minutes. For each presentation, the presentation document (Powerpoint slides) and accompanying research documentation (a minimum 500 word, APA formatted paper) will be submitted **24 hours prior to the start of class** when the presentation will be given.

## Videos

Each week, a set of videos will be available to be viewed before the start class covering topics specific to the CompTIA exam objectives. These videos supplement the reading material offered online.

## Final Examination

The final examination will be comprehensive and cover all the CompTIA exam objects covered in the course. The exam is closed book, will be timed, and will occur in the last F2F class session. The use of a virtual machine is not allowed during exams.

## Late Work

Online labs, In-class labs and reading quizzes may be submitted late with a 10% point deduction penalty per day. **No assignment will be accepted after it is more than 4 days late.** Missed chapter quizzes, student presentations and the final exam cannot be completed late unless the student has prior written agreement from the instructor. **Missed chapter quizzes, student presentations, and the final exam will receive zero points.**

## Classroom Etiquette

Students are expected to actively engage in an adult learning environment. Behaviors that disrupt the classroom environment and interfere with the learning of others are prohibited. Examples include talking with other students during a presentation or when others are speaking, texting, gaming, internet browsing, or reading non-course related materials. All pagers, cellphones, and other electronic communication devices will be turned off at the beginning of class. Tablets and computers are allowed in class for note-taking, quizzes, and lab purposes only, unless otherwise directed by the instructor. Arriving late and leaving early are strongly discouraged and disruptive to the class.

Respect others' opinions. Be considerate while your peers are speaking and actively engage them only when they have completed their point. Discourteous comments and side conversations will not be tolerated and will be addressed openly and directly by the instructor. Should a student's behavior become disruptive to the productivity of the course he/she will be asked to leave the classroom and not receive credit for attendance.

## University Mission

Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being

of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

## Department Mission

The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

## Attendance

Attendance is expected at each class session. In the event of an absence you are responsible for the material covered in class and the assignments given that day.

Regular and punctual attendance at all synchronous class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions (virtual or face-to-face), the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. In some courses, a portion of the credit hour content will be delivered asynchronously and attendance will be determined by submitting the assignments by the posted due dates. See [ADC Academic Policies in the Graduate and Professional Studies Catalog](#). If absences exceed these limits but are due to university excused health issues, an exception will be granted.

For example: In a four-unit 8-week hybrid course, a student may be de-enrolled after missing five hours of in-person or "online" class time. Missing activities in the online week count as missing 4 hours of class time, thus students must participate in the required activities noted in the online only week.

**It is expected that you attend all face-to-face class sessions and complete any online work.** Vacations and other planned trips that would require you to miss a class session should be avoided. Missing a single class session will likely have an impact on your final grade and your ability to pass the course. Unless it is an emergency, you are required to contact your instructor before class if you must miss a portion of a class session or the entire class session. Failing to contact the instructor prior to class limits your ability to make up the work that is missed.

## Class Enrollment

It is the student's responsibility to maintain his/her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

## Academic Accommodations

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center ([EAC@pointloma.edu](mailto:EAC@pointloma.edu) or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. The EAC makes accommodations available to professors at the student's request.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's

responsibility to make the first contact with the EAC. Students cannot assume that because they had accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any special accommodations.

## Academic Honesty

Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the University Catalog. See [ADC Academic and General Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

During the first week of class, students will be asked to submit an Academic Honesty Verification Statement. Submitting the statement is a requirement of this course. By submitting the Academic Honesty Verification Statement, students will be verifying all assignments completed in this course were completed by them. Carefully review the Academic Honesty Statement below.

Statement: "In submitting this form, I am verifying all the assignments in this course will be completed by me and will be my own work."

## Artificial Intelligence (AI) Policy

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, iA Writer, Marmot, Botowski) to generate ideas, but you are not allowed to use AI tools to generate content (text, video, audio, images) that will end up in any work submitted to be graded for this course unless explicitly called for in the assignment instructions. If you have any doubts about using AI, please gain permission from the instructor.

## PLNU Copyright Policy

Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

## Email and Messages

The primary and official means of communication will be PLNU email and Canvas Announcements. It is expected that students regularly use PLNU email and check Canvas Announcements as the instructor will send you information and updates regarding class via these methods. In the first week of class, you **must** activate your PLNU email account if you are not currently using it.

## PLNU Spiritual Care

PLNU strives to be a place where you grow as a whole person. To this end, we provide resources for our Graduate and Adult Undergraduate students to encounter God and grow in their Christian faith. At the Mission Valley (MV) campus, we have an onsite chaplain who is available during class break times across the week. If you have questions for, desire to meet or share a prayer request, please email [mvchaplain@pointloma.edu](mailto:mvchaplain@pointloma.edu)

In addition, on the MV campus, there is a prayer chapel on the third floor, which is open for use as a space set apart for quiet reflection and prayer.

## PLNU Recording Notification

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel.

Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

## Language and Belonging

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars, we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

You may report an incident(s) using the [Bias Incident Reporting Form](#).

## Sexual Misconduct and Discrimination

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the [Title IX Office](#). Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at [counselingservices@pointloma.edu](mailto:counselingservices@pointloma.edu) or find a list of campus pastors on the [Title IX Office website](#).

## Use of Technology

In order to be successful in the online environment, you'll need to meet the minimum technology and system requirements; please refer to the [Technology and System Requirements](#) information.

*Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.*

## Some Tips About This Class

- Set aside at least 10 - 15 hours each week to complete the week's learning sessions.
- Come to class fully prepared to participate in learning by completing all assigned reading, the reading quizzes, online labs, and videos.
- If you have a question, please **ASK!**

## Assignments At-A-Glance

The course summary below lists our assignments and their due dates. Click on any assignment to review it.



