

TEXTS, READINGS, INSTRUCTIONAL RESOURCES:

Required Texts:

- PSI General Concepts of Computing uses a free digital textbook accessible at: <https://njctl.org/materials/courses/general-computing-concepts/>
- Participants will download SMART Notebook presentations, homework files, labs, and teacher resources from the PSI General Concepts of Computing

COURSE REQUIREMENTS:

In order to receive a Passing grade, the participant must complete the following course requirements:

1. **Activities:** A number of different learning activities will ensure participant engagement and learning in the course. These include:
 - Engage in video module lessons which demonstrate minimized direct instruction followed by frequent formative assessment
 - Completion of formative assessments aligned to learning objectives which include detailed analysis when answered incorrectly.
 - Interaction with module discussion boards that allow conversation with peers and course instructors about the module's content, delivering that content to students. Discussion boards also serve as a place to ask and answer questions related to the module's content.
2. **Short Answer Assignment:** Each module requires one (1) original response to a given prompt. These prompts are typically based upon course lessons and require teachers to analyze, reflect, and make connections between the module's content and their own classroom practice.
3. **Mastery Exercises:** For each module, these multiple-choice question quizzes assess the content knowledge gained in a module. Participants have the opportunity to retake; random questions are pulled from a larger question bank on each attempt ensuring varied questions.
4. **Labs:** These promote a deeper understanding of logical reasoning and the applications of programming.
5. **Module Exam:** One is completed at the end of each module. It is a culminating exam consisting of multiple choice and free response questions aligned to the standards and objectives of the module.
6. **Reflection Paper:** At the end of the course, participants are required to reflect on the knowledge taught in the course, make connections, and compare/contrast their current pedagogy with new strategies gained in this assignment.
7. **Final Exam:** At the end of the course, a comprehensive exam consisting of Multiple Choice and Free Response questions assesses the content knowledge learned throughout the course and aligns to the AP College Board Exams.

GRADE DISTRIBUTION AND SCALE:

Grade Distribution:

Module Exams	70%
Final Exam	10%
Programming Assignments/Labs	6%
Short Answer Assignments	6%
Mastery Exercises	6%
Reflection Paper	2%

Grade Scale:

A	93 – 100
A-	90 – 92
B+	86 – 89
B	83 – 86
B-	80 – 82
C+	77 – 79
C	73 – 76
C-	70 – 72
D	60.0 – 69.9
F	59.9 or below

ACADEMIC STANDING:

NJCTL has established standards for academic good standing within a student’s academic program. Students enrolled in any NJCTL online course must receive an 80 or higher to successfully complete a course and receive credit for that course. An 80 is equivalent to a GPA of 2.7 or B-. Additionally, students in an endorsement program must receive a cumulative GPA of 3.0 for all courses combined in order to successfully complete the program.

ACADEMIC INTEGRITY:

Students must assume responsibility for maintaining honesty in all work submitted for credit and in any other work designated by the instructor of the course. Academic dishonesty includes cheating, fabrication, facilitating academic dishonesty, plagiarism, reusing /repurposing your own work, unauthorized possession of academic materials, and unauthorized collaboration.

CITING SOURCES WITH APA STYLE:

All students are expected to follow proper writing and APA requirements when citing in APA (based on the APA Style Manual, 6th edition) for all assignments.

DISABILITY SERVICES STATEMENT:

We are committed to providing reasonable accommodations for all persons with disabilities. Any student with a documented disability requesting academic accommodations should contact the Dean of Students, Melissa Axelsson, for additional information to coordinate reasonable accommodations for students with documented disabilities (melissa@njctl.org).

NETIQUETTE:

Respect the diversity of opinions among the instructor and classmates and engage with them in a courteous, respectful, and professional manner. All posts and classroom communication must be conducted in accordance with the student code of conduct. Think before you push the Send button. Did you say just what you meant? How will the person on the other end read the words?

Maintain an environment free of harassment, stalking, threats, abuse, insults or humiliation toward the instructor and classmates. This includes, but is not limited to, demeaning written or oral comments of an

ethnic, religious, age, disability, sexist (or sexual orientation), or racist nature; and the unwanted sexual advances or intimidations by email, or on discussion boards and other postings within or connected to the online classroom.

If you have concerns about something that has been said, please let your instructor know.

CLASS SCHEDULE:

Module	Module Learning Outcomes	Assignments
1 – Hardware	<ul style="list-style-type: none"> • Discuss the components of a computer. • State the uses of computing devices. • Differentiate between input and output devices. 	<ul style="list-style-type: none"> • Short Answer Assignment • Mastery Exercises • Module Exam
2 – Software	<ul style="list-style-type: none"> • Define the term software. • Differentiate between the functions of different types of software. • Use application software appropriately. 	<ul style="list-style-type: none"> • Short Answer Assignment • Lab • Mastery Exercises • Module Exam
3 – Data, Storage & Memory	<ul style="list-style-type: none"> • Discuss types of data. • Differentiate between the different number bases. • Convert from one base to another. • Discuss file security. 	<ul style="list-style-type: none"> • Short Answer Assignment • Mastery Exercises • Module Exam
4 - Languages & Flowcharts	<ul style="list-style-type: none"> • Identify logic gate symbols and write simple logic equations. • Write examples of alternative logic gates. • Define the term algorithm and state the functions of an algorithm. • Write simple algorithms. • Use flowcharts to solve a given problem. 	<ul style="list-style-type: none"> • Short Answer Assignment • Mastery Exercises • Module Exam
5 – Communications	<ul style="list-style-type: none"> • Differentiate between digital and analog signals. • Discuss the history of the digital revolution. • Discuss the many ways that we communicate with digital signals. • List the applications of communications. 	<ul style="list-style-type: none"> • Short Answer Assignment • Mastery Exercises • Module Exam
6 - Networking & The Internet	<ul style="list-style-type: none"> • Discuss the different types of networks. • Explain how network devices work. • State the benefits of the internet to society. • Navigate the internet, 	<ul style="list-style-type: none"> • Short Answer Assignment • Mastery Exercises • Module Exam
7 - Privacy, Copyrights & Cybersecurity	<ul style="list-style-type: none"> • State sources of security breaches and protective measures. • Protect computer systems and information from harm and unauthorized use. • Discuss legal issues related to copyright and ownership. 	<ul style="list-style-type: none"> • Short Answer Assignment • Mastery Exercises • Module Exam
8 – Reflection & Final Exam	<ul style="list-style-type: none"> • Final Exam Review • Zoom call with professor to prepare for final exam, if needed 	<ul style="list-style-type: none"> • Reflection Paper • Final Exam