

CSC 3094: Programming Languages

Spring 2022

4 units

Point Loma Nazarene University
College of Natural and Social Sciences

PLNU 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 is an expression of faith. Being of Wesleyan heritage, we strive to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

Instructor:

Dr. Benjamin Mood
bmood@pointloma.edu
619 849 2269
RS 216

Meeting Times and Locations:

Lecture:

RS265 - MWF: 12:15 – 1:10pm

Office Hours:

M – 8:30 – 9:30am (CAF), 12:15 – 1:15pm.
T – 9:45am – 10:45am, 1:45pm – 2:45pm
W – 8:30 – 9:30am, 12:15 – 1:15pm.
H – 12:00pm – 2:00pm
F – 8:30 – 9:30am (CAF), 12:15 – 1:15pm.

Books:

Concepts of Programming Languages by Robert W. Sebesta

Course Description:

This course in programming languages covers language design issues and language translators. Laboratories give students a practical understanding of programming language concepts as well as give experience in programming using several programming languages.

Learning Outcomes:

Students will be able to write correct and robust software.
Students will use the theory of algorithms and computation to solve problems.
Students will analyze the interaction between hardware and software.

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.

Additional Course Information:

Missed Classes: Homework/Quizzes/Exams missed due to PLNU excused absences (i.e., sports teams, choirs, etc), can be made up. Missed Quizzes/Exams/etc. due to emergencies can be made up once the dean of students informs Dr. Mood that PLNU has approved the reason. Non-emergency missed exams will result in a zero. It is the student's responsibility to inform the professor of when they will be gone. Missed class activities, which are due to a non-dean of students approved-emergency situation, will result in a zero.

Project: The best way to truly understand what goes on in a compiler and a lot of techniques in programming languages is to write and explore code for a compiler. To that end, each student will be implementing a compiler partially in Java and mostly in C++ as a semester long project.

For C++ components, your code should work with the make file provided w/G++. (Note: some IDE's code will not compile with G++). You will be given a makefile that must actually make your program compile for each section of the compiler.

No part is meant to be done in one sitting or on one day.

Other Assignments: There will be other assigned assignments during class. They will be due 1 week from the time they are given out. In these assignments, you will get to explore other programming language concepts.

Cheating: Unless otherwise noted, talking and working with fellow students to understand concepts is OK. However, copying code from another student (or giving your code to another student) is not acceptable and will result in a staggering penalty of -100% on whatever assignment/exam it was. Although sharing code seems a "nice" to help a friend, the penalty applies to all involved. **Do not share your code with anymore. Do not let someone look at your code.** If you use online resources, you must site the direct URLs in the labs you turn in.

Grading:

Compiler Project	35%
Assignments	15%
Midterm	25%
Final	25%

Grading scale
93 – 100% A

90 – 92%	A-
87 – 89%	B+
83 – 86%	B
80 – 82%	B-
77 – 79%	C+
73 – 76%	C
70 – 72%	C-
67 – 69%	D+
63 – 67%	D
60 – 62%	D-
0 – 59%	F

PLNU Policies

STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

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.

CREDIT HOUR

In the interest of providing sufficient time to accomplish the stated course learning outcomes, this class meets the PLNU credit hour policy for an 4 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

PLNU ACADEMIC HONESTY POLICY

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 [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities. Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center (EAC@pointloma.edu or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will issue an academic accommodation plan ("AP") to all faculty who teach courses in which the student is enrolled each semester.

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 and/or if they do not wish to utilize some or all of the elements of their AP in that course.

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.

PLNU ATTENDANCE AND PARTICIPATION POLICY

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 class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, 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.

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.

FINAL EXAM

The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. This schedule can be found on the university website and in the course calendar. No requests for early examinations will be approved. Only in the case that a student is required to take three exams during the same day of finals week, is an instructor authorized to consider changing the exam date and time for that particular student.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide

resources for our students to encounter God and grow in their Christian faith.

If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Development](#).

Tentative Schedule

Monday	Tuesday	Wednesday	Thu	Friday
Jan: 10	11: Bytecode & Interpreter & compiler project	12: Interpreter QA / lab day	13:	14 Chapter 1
17 (no classes)	18	19 Chapter 2	20	21 Chapter 2
24 DFA/REGX/CFG/PDA/Turing Machines	25	26 DFA/REGX/CFG/PDA/Turing Machines	27	28 DFA/REGX/CFG/PDA/Turing Machines Scanner Interpreter Due
31 Scanner Lab Day	1	2 DFA/REGX/CFG/PDA/Turing Machines or Chapter 4	3	4 Chapter 4
7 Chapter 4/Parsing Scanner Due	8	9 Parser Lab Day	10	11 Chapter 5
14 Chapter 6	15	16 Chapter 6	17	18 Chapter 7
21 Chapter 7	22	23 Chapter 8	24	25 Type Checker Parser Due
28 NDSS	1	2 NDSS	3	4 Midterm
7 (spring break)	10	11	12	13 (spring break)
14 Type Checker lab day	15	16 Chapter 9	17	18 Chapter 9

21 Chapter 11	22	23 Chapter 11	24	25 Code Generator Type Checker Due
28 Code Generator lab day	29	30 Chapter 12	31	1 Chapter 12
4 Chapter 13	5	6 Chapter 13	7	8 Chapter 13
11 Chapter 15	12	13 Chapter 15	14 EASTER	15 EASTER
18 EASTER	19	20 Chapter 15	21	22 Chapter 16 Code Generator Due
25 Chapter 16	26	27 Review	28	29 Review
2	3	4 FINAL	5	6