CSC 3094: Programming Languages
Spring 2020
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:**
>> **RS 265 -** MWF: 2:45 – 3:55

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 11/E

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 in C++ as a semester long project. You will be given a smaller compiler, which uses the same techniques you will use as an example.

The project will be separated into different components. <u>Late turn ins will receive a 0 for each late component once the solution for that particular part has been posted.</u>

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 project.

No part is meant to be done in one sitting or 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 labs, you will get to explore other programming languages concepts.

Cheating: If you use online resources, you must site the direct URLs in the labs you turn in. You should not copy another student's work. Unless otherwise noted, talking and working with fellow students to understand concepts is OK. <u>Copying code from another student is not acceptable and will result in a staggering penalty</u>. Although sharing code seems a "nice" to help a friend, if caught and I don't know who actually wrote the code, the penalty applies to all involved. **Do not share your code with anymore.**

Cell Phones & Laptops: Please don't use them in class unless we are doing a demonstration or asked to use them. An occasional peek is OK, but ignoring what is going on in class is not.

Be Courteous and Respectful. Be respectful to me. Be respectful of each other. <new para>

Grading:

	CSC394
Compiler Project	30%
Assignments	20%
Midterm	25%
Final	25%

Grading scale

Range	Grade
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

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 classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in 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. See the Undergraduate Academic Catalog Class Attendance.

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:
While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments,

modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. (DRC@pointloma.edu or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses.

If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

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 Academic Honesty for definitions of kinds of academic dishonesty and for further policy information.

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.

Copyright Protected Materials:
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 a 4 unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

Tentative Schedule

Monday	Tuesday	Wednesday	Thu	Friday
Jan: 13	14: DFA/REGX	15: Lab day	16:	17
20 (no classes)	21	22	23	24 CFG **Scanner Due**
27 Lab	28	29	30	31
3 Lab	4	5	6	7
10	11	12	13	14 Typing **Parser Due**
17 Lab	18	19	20	21
24 NDSS	25	26 NDSS	27	28
2	3	4 **Midterm!**	5	6 **Type Checker Due**
9 (spring break)	**10**	**11**	**12**	**13 (spring break)**
16	17	18	19	20
23 Lab	24	25	26	27
30	31	1	2	3
6	7	8	9	10 **EASTER**
13 **EASTER**	14	15	16	17 **Code Generator Due**
20	21	22	23	24
27	28	29	30	1 review / **Interpreter Due**
4	5	6 **FINAL**	7	8