CSC/EGR1054
Objects and Elementary Data Structures
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
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619 849 2269
Rohr Science 216

Meeting Times and Locations:

Lecture:
MWF **-** RLC 102 – 11:00 – 11:55am
Labs:
T – RS 395 - 3:00am – 4:45pm
R – RS 395 - 10:00am – 11:45am

Extra lab hours in virus lab (unless otherwise noted):

Sundays - Jasmine 6pm - 8pm
Monday - Morgan 4pm - 6pm
Tuesday - Brenden 7pm - 9pm
Wednesday - Steven 7pm - 9pm

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:

Java Illuminated 5th edition. By Julie Anderson and Herve Franceschi

Course Description:

As a continuation of CSC 1043, this course deals with more advanced computing constructs and ideas, reinforced in weekly labs. Topics include object-oriented design, inheritance, polymorphism, exception handling, and recursion, along with more intentional development and debugging strategies. Linked lists are introduced as a viable option for implementing basic ADT's. Students gain experience in the design of graphical user interfaces, event driven programming, and larger programming projects. Lecture three hours and laboratory two hours each week. Prerequisite(s): CSC 1043 with a grade of C- or higher.

Learning Outcomes:

Students will be able to write correct and robust software.
Students will analyze the interaction between hardware and software.
Students will be able to apply their technical knowledge to solve problems.
Students will be able to speak about their work with precision, clarity and organization.
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Students will collaborate effectively in teams.
Students will be able to gather relevant information, examine information and form a conclusion based on that information.
Students will be able to understand and create arguments supported by quantitative evidence, and they can clearly communicate those arguments in a variety of formats.

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:

Labs: Labs are used to give students a way to practice the concepts studied in lecture. They will be composed of practical and question sections. The practical part of the lab must be demonstrated to Dr. Mood or a lab assistant to show that it works successfully. A completed lab includes the signed off practical sections and answers to the theoretical questions; all code and necessary data files and question answers will be turned in on online on canvas. It should be well commented. Code missing comments will not be given full credit.

Labs, for all sections, are due Tuesday at 9:30am the day the new lab is assigned. The new lab will be posted shortly after (or sometimes before) that time.

My expectations is that students will use the JGRASP IDE in this class. The purpose of this class is for you to learn everything required for programming. This means it is to your benefit not to have code filled in by a fancy IDE. Code that requires edits to be run by myself or the TAs due to IDE choices will result in point deductions.

Unless you have finished the lab and it is already checked off and submitted on canvas or you have previously received permission, the general expectation is that you will be in the lab during lab time.

Quizzes: We will have in-class quizzes on the lab that was just turned in. The quizzes will have questions of similar type, content, and style to the written exams. The lowest quiz will be dropped.

A-Advice: The way to excel in this class and all other computer science classes is to read the book if you don't understand something, learn the concepts at an 'A' level, learn to debug well, learn to solve your own code problems, go to office hours, and go to virus lab hours if you have questions. In the future, you will hit a 'wall' if you do not understand the concepts yourself and rely too heavily on lab assistants, classmates, or Dr. Mood.

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

Rule of thumb: everything you turn in you should have written and be able to completely explain. Meaning, if I call you into my office to explain your work, you should be able to because you wrote your code from your understanding.

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.

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.

Grading:

Students must pass a written and a programming exam in order to pass this class. Students who fail both programming exams or fail both written exams will receive an 'F' in the class regardless of all other grades.

Labs	25%
Project	10%
Quizzes	15%
Written Exam 1	10%

Lab Exam 1	10%
Final Written	15%
Final Lab	15%

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

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.

<u>Tentative</u> Schedule

Monday	Tuesday	Wednesday	Thu	Friday
Jan: 13	14: 9.7	15: 9.7 &	16: No lab.	17 Chapter 7.7-7.9

		Chapter 7.1 – 7.6		
20 (no classes)	21 Array list + class lab	22 How to debug. **Quiz (example – no grade)**	23 Array list + class lab	24 Chapter 7.10 – 7.11
27 Chapter 10.1 – 10.2	28 Class lab 2	29 Chapter 10.1 – 10.2 **Quiz (arraylist)**	30 Class lab 2	31 Chapter 10.3-10.6
3 Chapter 10.3-10.6	4 lab (inheritance)	5 Chapter 11.1-11.4 **Quiz (class 2)**	6 lab (inheritance)	7 Chapter 11.1-11.4
10 Chapter 11.1-11.4	11 lab: files exceptions	12 Chapter 12 **Quiz (inheritance)**	13 lab: files exceptions	14 Chapter 12
17 Chapter 12	18 gui lab 1 (layouts + painting)	19 Chapter 12 **Quiz (files exceptions)**	20 gui lab 1 (layouts + painting)	21 Chapter 12
24 TBD	25 **Midterm Programming**	26 TBD	27 **Midterm Programming**	28 Chapter 12
2 Chapter 12	3 gui lab 2 (components)	4 **Midterm Written**	5 gui lab 2 (components)	6 **Quiz (GUI 1)** Chapter 12
9 (spring break)	**10**	**11**	**12**	**13 (spring break)**
16 Debugging Hard to Debug Programs	17 gui lab 3 (mouse and timer)	18 Chapter 12 **Quiz (GUI 2)**	19 gui lab 3 (mouse and timer)	20 Chapter 13.1-13.3
23 Chapter 13.5, 13.7	24 project	25 Chapter	26 Project	27 Chapter 13

		13.5, 13.7 **Quiz (GUI 3)**		
30 Chapter 13	31 Lab Recursion	1 TBD	2 Lab Recursion	3 , (efficiency intro)
6 Chapter 14.1	7 No lab.	8 Chapter 14.2	9 **EASTER**	10 **EASTER**
13 **EASTER**	14 Lab LL	15 Chapter 14.2 **Quiz (Recursion)**	16 Lab LL	17 Chapter 14.3-14.4
20 8.6	21 Lab Queue	22 8.6 **Quiz LL**	23 Lab Queue	24 Chapter 14.8
27 TBD	28 TBD	29 Review **Quiz (Queue)**	30 TBD	1 **Written Final**
4	5	6 **Programming Final**	7	8