EGR154
Objects and Elementary Data Structures
Spring 2019
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
Rohr Science 216

Meeting Times and Locations:

Lecture:
T/R: 11:00am – 12:15pm Rohr Hall 109
Lab: T:
3:00 – 4:45 Library West 213
Lab: R:
12:30 – 2:15 Library West 220

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

Amanda: Sunday 6-8
Jasmine: Monday 6-8
Steven: Tuesday 6-8
Morgan: Wednesday 6-8

Office Hours:

Monday: 11:00 – 12:00 (caf), 12:00 – 1:30 (office)
Tuesday: 9:45 – 10:45 (office), 12:45 – 2:45 (office)
Wednesday: 11:00 – 12:00 (caf), 12:00 – 1:30 (office)
Thursday: 9:45 – 10:45 (office), 2:45 – 3:45 (office)

Books:

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

Course Description:

As a continuation of CSC 143, 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 143 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:

Missed Classes: Homework missed due to PLNU activities (i.e., sports teams, choirs, etc), can be turned in the day after the student is back. Missed exams 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. Late work is not accepted except in the aforementioned situations.

Labs: Labs are used to give students a way to practice the concepts studied in lecture. They will be composed of a practical and a theoretical (written) section. 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, on paper AND all code and necessary data files turned in online on canvas. It should be well commented. Code missing comments will not be given full credit.

As in CSC143, there will be lab hours where a lab assistant will be available to answer

questions or sign off on the lab. Students may also come by Dr. Mood's office hours to ask questions and/or request their lab to be signed off.

Labs should be turned in, at latest, at the beginning of next lab; if you don't have it checked off by the time lab starts, you can only run the lab once for the lab assistants; They will check it as soon as they are ready. I will not accept late labs. Partial credit will be given, so please turn in whatever is done.

Study Questions: If requested, questions from the book will given out; these questions will contain the concepts and the types of questions, which I may ask on exams.

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. You should not copy code from online (exception: looking up how to call functions or use built-in classes.). Unless otherwise noted, talking and working with fellow students to understand concepts is OK. If you are concerned, simply ask myself or the lab assistant for help. Copying code from another student is not acceptable.

Rule of thumb: everything you turn in you should be able to completely explain. Meaning, if I call you into my office to explain your work, you should be able too.

Final: The final time is listed in the schedule.

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	30%
Written Exam 1	15%
Lab Exam 1	15%
Final Written	20%
Final Lab	20%

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 http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Class_Attendance in the Undergraduate Academic Catalog.

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 http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#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.

Schedule

Monday	Tuesday	Wednesday	Thu	Friday
Jan: 7	8:	9:	10: Array Lists, 9.7 Array list lab	11
14	15 7.1-7.6 Array list lab	16	17 7.7-7.9 Class lab 1	18
21 **(no classes)**	22 7.10 – 7.11 Class lab 1	23	24 10.1 – 10.2 Class lab 2	25
28	29 10.3 – 10.6 Class lab 2	30	31 11.1 – 11.4 lab (inheritance & debugging)	Feb 1
4	5 11.1 – 11.4	6	7 12.1 – 12.3 lab: files	8

	lab (inheritance & debugging)		exceptions	
11	12 Interface: 10.8 lab: files exceptions	13	14 12.4-12.6 lab: gui lab 1	15
18	19. 12.12 – 12.13 lab: gui lab 1	20	21 **written exam** gui lab 2 (due after break)	22
25	26 Ndss / gui lab 2 (due after break)	27	28 lecture TBD **Programming exam**	1
4 (spring break)	**5**	**6**	**7**	**8 (spring break)**
11	12 12.7 & 12.9 **Programming exam**	13	14 12.10 & 12.11 Timer lab	15
18	19 12.4 Timer lab	20	21 13.1 – 13.3 **Project start Thurs**	22
25	26 13.5, 13.7 **Project start Tues**	27	28 14.1 **Project Mid-Check thurs (demo only)** Lab recursion	29
1	2 14.2 **Project Mid-Check Tues (demo only)** Lab recursion	3	4 14.3-4 **Project due Thur** lab: LL	5
8	9 8.6 **Project due Tues** Lab: LL	10	11 14.8 lab: queue	12
15	16 lecture TBD lab: queue	17	18 **Easter Break**	19 **Easter Break**
22 **Easter Break**	23 review Lab: practice / queue due at beginning of lab	24	25 **Written Final** Lab: practice / queue due at beginning of lab	27

29	30 **Tuesday @ 10:00am**	1	2	3