Point Loma Nazarene University
CSC 154: Objects and Elementary Data Structures (4 units)
Spring 2017

Instructor:
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Office hours:
MWF 8:00-9:30, 1:00-2:00 TTh 10:45-11:45

Course Time and Location
Lecture: TR 1:30-2:45 RS 13 Lab: R 2:50-4:40 Bresee Lab

Text:
Anderson and Franceschi. *Java 6 Illuminated:An Active Learning Approach,4th Edition.* Jones and Bartlett 2016. We will cover chapters 7, 9-14 in this class.

Course Catalog 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, simple ADT's, and recursion, along with more intentional development and debugging strategies. Students gain experience in the design of graphical user interfaces and event driven programming culminating with the creation of a multi-week game-based project. Lecture three hours and laboratory two hours each week.

Course 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.

Course Organization:
Lectures: Cover the highlights of chapters assigned – **not** a substitute for reading. The lecture slides can be obtained from Canvas

Labs:
Most lab sessions will begin with either a prep lab or a lab quiz. Both of these must be completed on an individual basis and are designed to help you know whether you, as an individual, are keeping up with the material. Lab quizzes are written and will ask questions about the implementation of the lab that you are turning in that day. You may not use any resources (including your code) when taking those. Prep labs are short labs based on the material that was covered in the previous week, and on which your main lab will also be based. **Prep labs must be completed individually and without any help from a peer.** You may ask a lab assistant or Dr. Carter for help on these**. Prep labs must be worked on during the lab period, and signed off with the code emailed to Dr. Carter by 4:30**. Please just paste your code into the email. Late labs are not accepted, but partial credit is awarded for labs turned in on time even if they are not signed off. An absence will result in a grade of 0 on the prep lab or lab quiz. The lowest prep

lab or lab quiz will be dropped**. If it appears to me, for any reason, that you are depending on a peer for help on a prep lab, I may ask that you move your seat.**

Main lab assignments may be completed individually, or in a group of 2. If you complete a lab as a team, please turn in only 1 lab sheet and code copy with both names on the assignment. The privilege of working together on labs may be revoked at any time if it appears that it is not helping you learn the material as indicated by exams and lab quizzes. **If you are working together, please do acknowledge this because programs that are otherwise too similar will either split the points, or be given a grade of zero.** Note that programs can look too similar if two people are leaning too heavily on the help of a lab assistant.

Grades for programming assignments will be based on correct compilation, correct execution, correct and adequate documentation, and form. **Your program should contain a comment describing the logic involved for a task that takes more than 4 lines of code.** This comment should be in your own words and say "how" you are doing something, not what you are doing. A "what" comment is *//sorting names* while a "how" statement would be *//find location of next item in sorted list, moving current values as necessary to accommodate new item.* Failure to do this could result in substantial point loss on a main lab.

Unless otherwise stated, main labs are due within the **first 15 minutes** of the lab period following the one in which they were assigned. **On the day that a lab is due, you have 1 chance** to get it signed off by a lab assistant. The lab assistant will either sign it off as correct, or make notes regarding what works and what doesn't. **No late labs are accepted and lab assistants will stop checking programs after 15 minutes unless told otherwise by Dr. Carter.** However, I will drop the lowest main lab grade and you may turn in any unfinished lab on time for partial credit. The exception to this policy is the programming project which is worth 2 labs. That one cannot be dropped.

Midterm: The midterm will cover lecture as well as lab material from chapters 7-11 of the book. The exam will be composed of a written portion and a practical programming portion. Students missing the midterm exam for a school function must arrange to take the exam in advance. Missing an exam for other reasons, short of an officially documented emergency will most likely result in a grade of 0. The midterm is currently scheduled for **February 21 (written) and 23 (programming)**.

Final Exam: The final exam will consist of a **written final given on Thursday of the last week of classes**, and a programming exam which will be May 4 (Thursday) at 1:30. 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. 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 change the exam date and time for that particular student.

Grading:

Prep labs and lab quizzes	20%
Main Labs	35%
Midterm	20%
Final Exam	25%

Final grades will be determined as follows:

100-93%	A	80-82.9%	B-	67-69.9%	D+
90-92.9%	A-	77-79.9%	C+	63-66.9%	D
87-89.9%	B+	73-76.9%	C	60-62.9%	D-
83-86.9%	B	**70-72.9%**	**C-**	0-59.9%	F

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

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.

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 in which a student is registered is considered essential to optimum academic achievement. Therefore, regular attendance and participation in each course are minimal requirements to be met. There are no allowed or excused absences except as approved in writing by the Provost for specific students participating in certain university-sanctioned activities. Excused absences still count toward the 10%-20% limits, but allow students to make up work, quizzes, or tests missed as a result of a university-sanctioned activity. Activities of a unique nature, such as labs or other activities identified clearly on the syllabus, cannot be made up except in rare instances when instructors have given advanced, written approval for doing so.

Whenever the number of accumulated absences in a class, for any cause, exceeds ten (10) percent of the total number of class meetings, the faculty member should send an e-mail to the student and the Vice Provost for Academic Administration (VPAA) warning of attendance jeopardy. If more than twenty (20) percent of the total number of class meetings is reported as missed, the faculty member or VPAA may initiate the student's de-enrollment from the course without further advanced notice to the student. If the date of de-enrollment is past the last date to withdraw from a class, the student will be assigned a grade of W or WF consistent with university policy in the Grading section of the catalog. There are no refunds for courses where a de-enrollment was processed. For more details see the PLNU catalog:
http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#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 academic standards for completion of their courses as established by the instructors, students with special needs may require academic accommodations. At Point Loma Nazarene University, students requesting academic accommodations must file documentation with the Disability Resource Center (DRC), located in the Bond Academic Center. Students can also reach the Disability Resource Center by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. Once the student files documentation, the Disability Resource Center contacts the student's instructors and provides written recommendations for reasonable and appropriate accommodations to meet the individual needs of the student. This policy assists the university in its commitment to full compliance with Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities (ADA) Act of 1990, and ADA Amendments Act of 2008, all of which prohibit discrimination against students with special needs and guarantees all qualified students equal access to the benefits of PLNU programs and activities. For more details see the PLNU catalog:
http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278#Academic_Accommodations

Students with learning disabilities who may need accommodations should discuss options with the instructor during the first two weeks of class.

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.

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.

Expected Schedule CSC 154

Monday	Tuesday	Wed	Thursday	Friday
	Jan 10 Monday schedule	11	12 Syllabus Objects, ArrayLists & methods Lab: ArrayLists	13
16 MLK	17 Chapter 7 User Defined classes Sections 7.1-7.6	18	19 7.7-7.9 – data manipulation methods Lab: 1st class lab	20
23	24 Sections 7.10-7.11 toString, .equals, static members, scope, object arrays	25	26 Start inheritance 10.1-10.2 Lab: 2nd class lab	27
30	31 More on inheritance and start polymorphism 10.3-10.6	Feb 1	2 No lecture Lab: Debugging, Poly, and inheritance	3
6	7 Exceptions, writing to files Sections 11.1-11.4	8	9 More on files, exceptions Lab: Reservation Lab (files, exceptions)	10
13	14 Introduction to GUIs 12.1-12.3 Written study sheet available	15	16 Interfaces 10.8 Lab: First GUI labs: due today	17
20	21 **Written exam** Practice prog exam available	22	23 **Programming exam**	24
27	28 More GUI objects Events, jTextfields, jButtons, sections 12.4-6	Mar 1	2 Layouts - grid and border 12.12-13 Event lab	3
6	7 Spring Break	8	9 Spring Break	10
13	14 Radio buttons, checkboxes, lists, combo boxes 12.7&12.9	15	16 Timers and mouse 12.10,12.11 Timer lab	17
20	21 Nesting layouts 12.14 Present project and demo examples	22	23 Start recursion 13.1-13.3 Lab: Recursion and project	24
27	28 More recursion – towers of Hanoi, recursive binary search 13.5,13.7	29	30 Start Linked Lists14.1 Basic LL lab and work on project	31
Apr. 3	4	5	6	7

	Linked lists of objects (14.2)		A stack, queue with linked list (14.3-4) Queue lab , Project due	
10	11 Array representation of stack (14.5)	12	13 Easter	14 Easter
17 Easter	18 Sorting algorithms with arrays (8.6)	19	20 Sorting with linked lists (14.8) LL and array stack lab	21
24	25 review	26	27 Written final	28
May 1	2	3	4 1:30-4:00 programming final	5