

# CSC 323: Software Engineering

## (3 units)

### Fall 2018

**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](mailto:bmood@pointloma.edu)  
619 849 2269  
Trailer #2, Gym Lot

#### **Meeting Times and Locations:**

##### **Lecture:**

T/R: 3:00 – 4:15 Latter 02

#### **Office Hours:**

M: 6:45 – 7:15am (caf), 8:30am – 9:30am, 10:30am – 12:00pm  
T: 1:45pm – 2:45pm  
W: 6:45 – 7:15am (caf), 11:15-12pm (caf)  
R: 6:45 – 7:15am (caf), 9:30am – 10:30am, 12:30pm – 2:45pm  
F: none

#### **Books:**

*Head First Software Development* by Dan Pilon and Russ Miles  
*Head First Design Patterns* by Eric Freeman and Elisabeth Robson.

\*I will not be assigning HW from the books

#### **Course Description:**

This course offers an in-depth treatment of the software development process. Software analysis and design study emphasizes an object-oriented approach that is introduced and contrasted with traditional design methodologies. CASE tools are used during the design process. Lecture two hours each week. Alternating Years. Offered 2018-19.

## **Learning Outcomes:**

Students will be able to write correct and robust software.

Students will be able to speak about their work with precision, clarity and organization.

Students will be able to write about their work with precision, clarity and organization.

Students will be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand.

Students will collaborate effectively in teams.

Students will be able to gather relevant information, examine information and form a conclusion based on that information.

## **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.

## **Course Information:**

**In Class:** There will be lectures, in-class work, and team meetings in class. In-class work cannot be made up for non-PLNU sanctioned absences.

**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 must be scheduled before the student leaves (the exception is dire circumstances). It is the student's responsibility to inform the professor of when they will be gone.

**Homework:** Homework should be exported as a package and submitted on canvas. Late work will not be accepted. Each of the three Unity tutorials are considered "homework". The homework will be graded as follows: 5 points for completing tutorial and 5 points for what is required in addition to the tutorial. Other homework may be assigned throughout the semester as needed and do not appear on the schedule at the end of this syllabus.

**Project:** Each person in the class will be assigned to a team and will work with that team on a larger project for the majority of the class. Dr. Mood expects the average student may work up to 12 hours a week for ~12 weeks on the project.

**Final:** All teams will give a demo of their project. It may also include something fun. It will include a final team report.

**Cheating:** You should not copy another student or groups' work. During the project, you can use any resource with the exception of another group.

**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.** It is highly distracting to me to see someone doing something else while in my class. This includes things like listening to music during my lecture. Do not do work for any other class inside of this one. Students violating the above rules may be asked to leave class for the day and will receive a 0 for all in class work.

**Grading:**

Homework	15%
Project	60%
Test	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**

**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](mailto: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: Tuesday of finals week @ 4PM**

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 3-unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

**Schedule – Schedule is approximate. Due dates & tests will not change, but what is covered**

**on any particular day might.**

Monday	Tuesday		Thu	
Aug: 27	28 (no class)		30 Intro & Why we need good software engineering & Unity & how to turn in HW	
3 Labor Day (no classes)	4 Sept: 1 Software Development Chapter 1, development cycle; <i>Agile</i> ,		6 Unity day <b>Tutorial 1 due + extra</b>	
10	11 Chapter 2: Requirements, Chapter 3, Planning,		13 <b>Tutorial 2 due + extra</b> Project day selection Unity day	
17	18 & Chapter 6: version control systems		20 Unity <b>Tutorial 3 due + extra</b> Projects & teams assigned	
24	25 Chapter 4: stories and tasks (+ design documents), Appendix i:1 and 2 <b>Email work summary (1 per group) to Dr. Mood by 3:00pm</b>		27 How to split up a program. <b>Project due date I</b>	
Oct: 1	2 Chapter 5: Good design <b>Email work summary to Dr. Mood by 3:00pm</b>		4 Greedy algorithms <b>Project due date II</b>	
8	9 Chapter 7: testing & Chapter 8: test driven development & Chapter 11 bugs <b>Email work summary to Dr. Mood by 3:00pm</b>		11 Dynamic programming <b>Project due date III.</b> End of Iteration 1;	
15	16 Design Patterns Intro & Observer,		18 Backtracking <b>Project due date IV</b>	19 (no classes)

	<b>Email work summary to Dr. Mood by 3:00pm</b>		
22	23 Decorator, Factory Patterns, Singleton <b>Email work summary to Dr. Mood by 3:00pm</b>	25 <b>Project due date V</b>	
29	30 Command, Adapter, and Façade Patterns <b>Email work summary to Dr. Mood by 3:00pm</b>	Nov: 1 End of Iteration 2; <b>Project due date VI</b>	
5	6 Template, State, <b>Email work summary to Dr. Mood by 3:00pm</b>	8 <b>Project due date VII</b>	
12	13 Iterator and composite patterns <b>Email work summary to Dr. Mood by 3:00pm</b>	15 <b>Project due date VIII</b> Proxy and compound patterns	
19	20 <b>Test!</b>	22 (No Class) Thanksgiving	(no class)
26	27 <b>Email work summary to Dr. Mood by 3:00pm</b>	1 <b>Project due date IX</b>	
Dec: 3	4 <b>Email work summary to Dr. Mood by 3:00pm</b>	6	
10	11 <b>Final!!! Project due date X</b>	13	