

# Service Learning CSC/ISS/MTH 495

(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.

## Meeting Times and Locations:

### Lecture:

M/W 7:00 – 8:20 LA 01

## 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:

No books!

## Course Description:

Students working in teams design and implement a project using a broad spectrum of computer science, mathematics, and/or natural science knowledge to meet the needs of a community organization or the university.

## Learning Outcomes:

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

Students will collaborate effectively in teams.

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

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.

### **Course Information:**

This class will be broken down into formal in-class time, and more flexible group time. Both are essential, and required.

### **Class time will be used for:**

- Technical, soft skill, and ethics presentations
- Team meetings
- Giving and listening to progress reports
- Reflections and peer evaluations

### **Time outside of class will be spent:**

- Meeting with client/ mentor
- Researching and Planning the project
- Learning technical tools
- Implementing project
- Planning briefs and presentations

Anticipated technical/ soft skill presentations:

- Writing **technical papers** in computer science and stats
  - Presenters should provide examples of technical papers from the different disciplines and talk about organization (comparing and contrasting discipline papers), voice, and characteristics of the different sections of the paper (abstract, introduction or background, methods, results/conclusion, bibliography (including how references are handled throughout the paper))
- **Creating academic posters**
  - Presenters talk about what makes a good poster, presenting examples of good and bad posters. Presenters should discuss how to get a poster made, including cost, time constraints, cost, and methodology.

- **Excel skills** including Sum, Avg, Standard Deviation, Count, and CountIf functions, V-Lookup, views with functions and with data only, simple graphs (at least bar, scatterplot, histogram)
  - Presenters should talk about theory (what information these tools provide and when they should be used) along with live demonstrations of their use.
- Demonstrate the capabilities of the **R programming language** including a simple script and creating different types of graphs from a dataset. Also show R-Shiny basics
- Demonstrate the capabilities of the **Visual Basic Programming Language** including a program that uses buttons, textboxes, and reads, displays, and updates a file.
- Demonstrate **Data visualization**: how to effectively represent data so that someone can easily understand the data. Presenters should at least include heatmaps, different types of charts/graphs, and the classic Charles Minard *Napoleon's Russian Campaign of 1812*.
- Demonstrate and explain using **External APIs** in Java applications. Include an example of sending an email from a java program. Include information from at least one other API other than gmail (e.g., twitter or something else).

### Grading:

This class is taken for credit only. The determination of whether an individual receives credit for the class is based on progress as determined by the professor, client, and peers. More specifically, there are 100 points available in the class. Each student starts with 100. To pass the class, a student is required to retain at least 80 points. **Late work is not accepted.** Points are distributed and deducted as follows:

Task	Possible points	Point deductions
Skills presentation	10	10 if missed by presenter, up to 10 if inadequate or absent
Ethics presentation	5	Up to 5 for poor or missed ethics presentation
Group presentations	15	5 for mid-semester presentation 10 for final presentation
Weekly Progress reports	15	2 for each time sufficient progress was not made that week
Poster/Presentation	10	10 for presentation absence, up to 10 for poor poster
Elevator pitch	5	Up to 5 for poor elevator pitch
Peer/mentor Evaluations	10	Up to 5 points for less than stellar evaluation, or a missing eval
Project Paper	20	Up to 20 for poor content and quality -4 for a missing section
Group assignments (written, meetings, reflections, etc)	10	5 for missing assignment or not contributing to assignment (in-class or out)

### Additional information on grading

**Skills presentation:** This is expected to be a group grade as presentations will be made in groups of up to 3. However, if 1 person is missing, or does not speak, that individual will likely receive the maximum deduction. Presentation should cover material requested by professor. A two-person presentation is expected to be 20-25 minutes and a three-person presentation is expected to be 30-35 minutes, and should include a 5-minute exercise for the class to complete.

**Ethics presentation:** Our work is not just about what we do, but how we do it, keeping in mind how it will affect society. Each student will be required to lead a discussion based on an ethics-

based paper. The student should have thoroughly read and contemplated the paper and prepared a brief synopsis along with 3-4 discussion questions for class consideration based on that paper. Please feel free to include any insights that the Bible presents on the general topic. Presentations typically made on Mondays. 20 - 25 minutes in length.

**Group presentations:** This is a group grade. However, if 1 person is missing, or does not speak, that individual will receive the maximum deduction and this will not affect the rest of the group. Progress on project will be judged by your presentation, and failure to show adequate progress on your project can result in huge deductions especially on the final presentation during the final exam time. **Your final exam will be a group presentation. The final exam is Wednesday at 7:30.**

**Weekly progress reports:** A recounting of what you, as an individual, completed towards the project. Points can be re-gained in this category if dramatic contribution was made the week after points were missed.

**Poster:** Your poster will be presented to a wide audience. The expected presentation date is Monday, November 20. The poster as a whole is a group grade for 10 points. The exception is that an absence for the presentation is an automatic deduction of 10 for the individual. This does not affect the group.

**Elevator Pitch:** The elevator pitch shows that in individual is familiar enough with the project to present an interesting summary in 30-60 seconds. This is an individual grade and will be developed in anticipation of the poster presentation.

**Peer evaluations:** Are expected to be honest assessments of the contribution of your team member. Points will be deducted from the evaluation that you complete if the professor believes that the evaluation is not a true representation of reality (in other words, that you are just trying to be nice to a friend).

**Project Paper:** The project paper is an individual grade. It will be based on the individual sections being turned in and revised as requested. Credit is not given if the sections are not turned in on time. Points may also be deducted if you are absent on a day when peer reviews take place or if the final quality of the paper is poor.

**Group assignments:** Group assignments may include, but are not limited to, development of the problem statement and management plans, client meetings, client approvals, poster draft, and reflections.

Note on attendance: Poor attendance can influence your grade in several ways:

- Missing points on group assignments
- Poor peer evaluations
- Maximum points deducted for missing presentations
- Potential de-enrollment based on PLNU attendance policy

## **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: Wednesday of finals week @ 7:30am**

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**

Monday		Wednesday		
Aug: 27	28: Intro & group selection & skills presentations selections	29 Problem Statement & email client	30	
3 Labor Day (no classes)	4 Sept: 1	5 Discuss ethics presentations & scheduling the project <b>Report on first meeting with client</b>	6	
10 Skills presentations	11	12 Skills presentations <b>Schedule due (gantt chart)</b>	13	
17 Skills presentations	18	19 Your technical papers & good sources & 6 points of an abstract	20	

24 Skills presentations	25	26 <b>Abstract due for peer review (in class) (bring it to class in a paper form!)</b>  <b>Report on second client meeting</b>	27	
Oct: 1 ethics <b>Abstract due</b>	2	3 <b>Intro due for peer review (in class)</b>	4	
8 ethics <b>Intro Due</b>	9	10 <b>(Mid semester presentation on project)</b>	11	
15 ethics	16	17 <b>Methods section due for peer review (in class)</b>	18	19 Fall break (no classes)
22 ethics <b>Methods due</b>	23	24 <b>Report on third client meeting</b> <b>Results section due for peer review</b>	25	
29 ethics <b>Results section due</b>	30	31 Posters!	Nov: 1	
5 ethics <b>Bibliography due</b>	6	7 <b>Poster draft due</b>	8	
12 ethics	13	14 <b>Evaluator pitch due (spoken in class with feedback!)</b>	15	
19 <b>Poster Presentations (might be at a different time than the class normally meets at, TBD based on schedules)</b>	20	21 (no class) Thanksgiving	22 (No Class) Thanksgiving	(no class)
26 Discussing final paper Ethics (1 presentation) <b>Conclusion due</b>	27	28	29	30
Dec: 3 ethics <b>Final Paper due</b>	4	5 <b>Project must be completed by this day</b>	6	7
10	11	12 <b>Final @ 7:30am</b>	13	14

