Point Loma Nazarene University
CSC/ISS/MTH 495 Service Learning Fall 2016
(3 units)

Instructor:

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Office hours:

M,W,F 10:30-12:00, 1:30-2:30   TR 1:30-2:30

Course times and location:

M, W, F 12:15-1:10 PM   RLC 108

Textbook: No textbook required

Catalog Description:

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

In addition to completing the project, students will:

- Learn to communicate with a client, write a technical paper about the project, and present on the project.
- Work in interdisciplinary teams, combining skills across disciplines to solve problems

This course can be used to fulfill the interdisciplinary project requirement for the computational science minor.

Course 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.

Course Organization:

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 and soft skill presentations
- Team and meetings

- Giving and listening to progress reports
- Reflections and peer evaluations

Time outside of class (4-6 hours per week) will be spent:
- Meeting with client/ mentor
- Researching and Planning project
- Learning technical tools
- Implementing project
- Planning briefs and presentations

Anticipated technical/ soft skill presentations:
- Optimization techniques for improving program execution time
  - Should include a discussion and demonstration of execution timing, multithreading, and inlining in Java or Python along with one additional technique for improving efficiency.
- Writing technical papers in biology, computer science, mathematics
  - 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, Pivot Tables, views with functions and with data only
  - Presenters should talk about theory (what information these tools provide and when they should be used) along with live demonstrations of their use. Dr. Crow can make MTH 203 labs available for help with the pivot tables, but the exercise given to the class should be original

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, up to 10 if inadequate
Group presentations	25	5 for mid-semester presentation 20 for final presentation (content/progress included)
Poster/Presentation	10	10 for presentation absence, up to 10 for poor poster
Elevator speech	5	Up to 5 for poor elevator speech
Peer Evaluations	15	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)	15	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 2. 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, and include at least 3 reputable references. Presentation is expected to be 15-20 minutes, and should include a 5 minute exercise for the class to complete.

Group presentations: This is a group grade. However, if 1 person is missing, or does not speak, that individual will likely 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 Friday at 10:30.**

Poster: Your poster will be presented to a wide audience. The expected presentation date is Monday, November 21. 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 speech: The elevator speech 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

Expected due dates

Date	Due
8/30	Signups for presentations and projects
8/31	Problem statement
9/7	Client meeting and client report completed **Optimization presentation**
9/9	Project management exercise
9/12	Reflection 1 **Excel presentation**
9/16	Formal group presentation on problem statement and management plan
9/19	Peer evaluation
9/26	Informal progress presentation

9/30	Client meeting and client report completed, informal progress report
10/3	**Technical paper presentation**
10/5	Partial abstract due
10/10	Introduction due for peer review, abstract revisions due, informal progress report
10/12	Introduction revisions due
10/17	Reflection 2
10/24	Peer evaluation
10/28	Methods section due for peer review
10/31	**Poster presentation** Reflection 3
11/2	Methods revisions due
11/7	Client meeting and client report completed, final management plan due Poster draft due
11/11	Bibliography due with references in text, elevator speech assigned
11/14	Final poster due, ordered.
11/16	Elevator speeches presented
11/21	Poster presentations
11/28	Reflection 4
12/2	Abstract, results, and conclusion due
12/5	Client meeting completed
12/7	Paper due with final revisions
12/9	Final client report due
12/16	Final presentations 10:30

Credit Hour Information:

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.

It is anticipated that you will spend a minimum of 37.5 participation hours per credit hour in your course. The estimated time expectations for this course are shown below:

Assignments	Total Course Hours
Student Presentations	13
Written Assignments	12
Lectures	12
Project research and development	60
Client meetings	4
Paper development	12
TOTAL	113

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 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.

MICS 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 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:
If you have a diagnosed disability, please contact PLNU's Disability Resource Center (DRC) within the first two weeks of class to demonstrate need and to register for accommodation by phone at 619-849-2486 or by e-mail at DRC@pointloma.edu. See Disability Resource Center for additional information. For more details see the PLNU catalog: http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#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.

Final Exam: Date and Time:
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.

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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.