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Phone	619-849-2634
Office Hours	TH 8:00 am - 9:00 am, MW 1:30 pm - 3:30 pm
Textbook	None Required
Room and Time	RS 265, MWF 11:00 am – 12:05 pm.
Final Exam	December 20, 2019 (Wednesday) 3:30 am – 10:00 am in room RS 265.

Catalog 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.

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, soft skill, and ethics presentations
- Team 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:

- **Microsoft Access**
 - Should include a discussion and demonstration of building 2 tables and creating queries based on those tables. Some queries should require relationships and complex expressions (using AND and OR). Presenter should demonstrate how to create a form and a report.
- **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, Average, 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.

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 speech	5	Up to 5 for poor elevator speech
Peer/mentor Evaluations	10	Up to 5 points for less than stellar evaluation, or a missing evaluation
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 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. Presentation is expected to be 15-20 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.

Group presentations: This is a group grade. However, if one 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 on Friday December 20, 2019 at 7:30 am.**

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. Beginning **September 20**, most Fridays are work days (no formal class meeting) so good progress is expected the next Monday. (These Fridays also work for client meetings)

Poster: Your poster will be presented to a wide audience. The expected presentation date is Monday, **November 29**. 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

Credit Hour Information:

Distribution of Student Learning Hours

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 3-unit 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.

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 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 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: Date and Time:

The final exam is on Friday December 20, 2019 at 7:30 am.

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.

Daily Schedule

	Day	Assignment	Due Date
1	Mon		9/2/19
1	Tue		9/3/19
1	Wed	Introduction to Service Learning	9/4/19
1	Thu		9/5/19
1	Fri	Signups for presentations and projects	9/6/19
2	Mon	Problem statement	9/9/19
2	Tue		9/10/19
2	Wed	R, VB and VBA Presentations, Project management exercise	9/11/19
2	Thu		9/12/19
2	Fri	Client meeting and client report completed, Access, Excel presentations	9/13/19
3	Mon	Formal group presentation on problem statement and management plan	9/16/19
3	Tue		9/17/19
3	Wed		9/18/19
3	Thu		9/19/19
3	Fri	2nd client meeting completed, Peer evaluation	9/20/19
4	Mon	Reflection on group work, client meeting, Technical paper presentation	9/23/19
4	Tue		9/24/19
4	Wed		9/25/19
4	Thu		9/26/19
4	Fri	Partial abstract due	9/27/19
5	Mon		9/30/19
5	Tue		10/1/19
5	Wed		10/2/19
5	Thu		10/3/19
5	Fri	Introduction due for peer review, abstract revisions due	10/4/19
6	Mon	Introduction revisions due	10/7/19
6	Tue		10/8/19
6	Wed		10/9/19
6	Thu		10/10/19
6	Fri		10/11/19
7	Mon	Soft skills exercise and Reflection, Peer evaluation	10/14/19
7	Tue		10/15/19
7	Wed		10/16/19
7	Thu		10/17/19
7	Fri	3rd client meeting completed	10/18/19
8	Mon		10/21/19
8	Tue		10/22/19
8	Wed		10/23/19
8	Thu		10/24/19
8	Fri	Writing reflection	10/25/19
9	Mon	Methods section due for peer review	10/28/19
9	Tue		10/29/19
9	Wed		10/30/19
9	Thu		10/31/19
9	Fri	Academic Poster presentation	11/1/19
10	Mon		11/4/19
10	Tue		11/5/19
10	Wed	Bibliography due with references in text	11/6/19
10	Thu		11/7/19
10	Fri		11/8/19
11	Mon	Poster draft/presentation due	11/11/19
11	Tue		11/12/19
11	Wed		11/13/19
11	Thu		11/14/19
11	Fri		11/15/19
12	Mon	Final posters due, elevator speeches presented, 4th client meeting completed	11/18/19
12	Tue		11/19/19
12	Wed	Results section due, peer evaluation	11/20/19
12	Thu		11/21/19
12	Fri		11/22/19
13	Mon	Formal Poster presentations	11/25/19
13	Tue		11/26/19
13	Wed		11/27/19
13	Thu		11/28/19
13	Fri		11/29/19
14	Mon	Conclusion due	12/2/19
14	Tue		12/3/19
14	Wed		12/4/19
14	Thu		12/5/19
14	Fri		12/6/19
15	Mon	Final client meeting and Client sign-off due	12/9/19
15	Tue		12/10/19
15	Wed	Final paper due with all revisions	12/11/19
15	Thu		12/12/19
15	Fri	Final presentation 7:30	12/13/19
16	Mon		12/16/19
16	Tue		12/17/19
16	Wed		12/18/19
16	Thu		12/19/19
16	Fri		12/20/19