Syllabus

To-Do Date: Mar 1 at 11:59pm

	**Department/School Name: Mathematical, Information and Computer Sciences** **Course Number and Name: CSC3031 Data Visualization and Communication in R** **Number of Units: 1**
Asynchronous Online | Spring 2021	

Instructor: Maria Zack, Ph.D.
Phone: 619.849.2458
Email: mzack@pointloma.edu
Office hours: **On Zoom - Click here for appointment (https://calendar.google.com/calendar/selfsched?sstoken=UUphMmZJc2tlVTFKfGRlZmF1bHR8YTE5OTI3YWQxZDFhZDc4MDExZWQ5ZjU3MDRhNmNkNTI)** **These are the times that I hold open for appointments. If none of them work you can email me to see if we can find another time.** **Monday 7:30-8:30 AM & 11:00 AM - noon** **Tuesday 2:00-3:00 PM** **Wednesday 1:00-2:00 PM** **Thursday 7:30-8:30 AM & 3:00-4:00 PM**

PLNU Mission

To Teach ~ To Shape ~ To Send

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.

COURSE DESCRIPTION

CSC 3031 - Data Visualization and Communication with R(1)

Students will learn to create effective static and dynamic graphics for representing complex data sets. Students will learn to apply the principles of effective storytelling with data, and best practices in data design and communication.

Prerequisite(s): CSC 1043 with a grade of C- or higher.

COURSE LEARNING OUTCOMES

- Students will be able to apply their mathematical knowledge to solve problems.
- Students will be able to use technology to solve problems.
- Students will be able to write correct and robust software.
- Students will be able to apply their technical knowledge to solve problems.

COURSE GOALS

- Students will be able to construct a dataset, explore the data using basic numerical and visual summaries.
- Students will be able to identify and implement the correct R tool for data analysis
- Students will be able to find new packages and learn to implement new tools in R using the documentation.

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

R in Action, 2nd ed. Kabacoff, Robert I. 2015. ISBN: 9781935182399
R from R-project.org
R studio from Rstudio.com

COURSE 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 1 unit class delivered over fifteen weeks. Specific details about how the class meets the credit hour requirement can be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

Distribution of Student Learning Hours

Category	Time Expectation in Hours
R in the News	5.5
Reading + Labs	25
Final Project Labs	7.5
Total Hours	37.5

ASSESSMENT AND GRADING

Graded Components

- **R in the News Discussion**: One of the best ways to learn what can be done in R is to follow R in the media, you may want to subscribe to some community groups in LinkedIn or follow relevant R # in social media. I would suggest finding some that are relevant to your discipline. Each of the weeks you have an R lab you will make a brief blog post with a short summary of an interesting tool or project you have seen using R. The post should only be about a paragraph long.
- **Homework/Labs**: Learning a programming language requires hands on experience, so the primary component of your grade will be from weekly labs and homework assignments.
- **Final Project/Labs:** Your last few labs will be more project based and will have a separate grade just for them. The final assignment will be due online at 11:59 on June 9th (during finals week).
- **Late work will not be accepted** without prior consent or a well-documented emergency. Up to a maximum of one homework assignment will be accepted up to 3 days late provided that consent is received from the professor before it is due. Homework assignments that are submitted late without prior consent will be recorded with a score of zero. If more than half of the homework assignments are submitted on time, then the lowest homework score will be dropped from the calculations of the homework grade.
- The examination schedule is included in the daily schedule. This instructor does not intend to accept excuses such as poor communication with parents, benefactors, surf team sponsors and/or travel agents.

Grading Distribution	Percent
R in the News	15
Homework/Labs	65
Project/Final Labs	20
Total	100

Grading Scale

Grades are based on the number of points accumulated throughout the course. Approximate minimal percentages required to obtain a given grade are:

Standard Grade Scale Based on Percentages					
	A	**B**	**C**	**D**	**F**
+		87.5- 90	77.5-80	67.5-70	
	92.5 -100	82.5-87.5	72.5-77.5	62.5 -67.5	0-60
–	90-92.5	80-82.5	70-72.5	60-62.5	

STATE AUTHORIZATION

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on **State Authorization (https://www.pointloma.edu/offices/office-institutional-effectiveness-research/disclosures)** to view which states allow online (distance education) outside of California.

INCOMPLETES AND LATE ASSIGNMENTS

All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Incompletes will only be assigned in extremely unusual circumstances.

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.

PLNU COPYRIGHT POLICY

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.

PLNU ACADEMIC HONESTY POLICY

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 Policies (http://catalog.pointloma.edu/content.php?catoid=18&navoid=1278)** for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

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.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Students taking online courses are expected to attend each week of the course. Attendance is defined as participating in an academic activity within the online classroom which includes posting in a graded activity in the course. (Note: Logging into the course does not qualify as participation and will not be counted as meeting the attendance requirement.)

Students who do not attend at least once in any 3 consecutive days will be issued an attendance warning. Students who do not attend at least once in any 7 consecutive days will be dropped from the course retroactive to the last date of recorded attendance.

SPIRITUAL CARE

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith. If students have questions, a desire to meet with the chaplain or have prayer requests you can contact the **Office of Spiritual Development (https://www.pointloma.edu/offices/spiritual-development)**

Recent Announcements

CSC3031-1 SP21 - Data Visualization and Communication in R

Jump to Today ✎ Edit

COURSE SCHEDULE AND ASSIGNMENTS

The full course syllabus may be found here: **Syllabus**

Textbook: *R in Action* - Data Analysis and Graphics with R by Robert Kabacoff

If you desire to see your work organized by week, you are able to access the weekly **modules**.

The table below lists our assignments and their due dates, below it are the actual assignments.

Week	Tasks	Lab Due Date	R in the News	Goal
1-Mar	No Tasks			
8-Mar	No Tasks			
15-Mar	Stats Lab 1, Stats Lab 2	3/22		Review R via statistics
22-Mar	Stats Lab 3, Stats Lab 4	3/29	Due Monday 3/29	Review R via statistics
29-Mar	Stats Lab 5, Stats Lab 6	4/5	Due Monday 4/5	Review R via statistics
5-Apr	Stats Lab 7, Possible Bonus Lab	4/12	Due Monday 4/12	Review R via statistics
12-Apr	Chapter 1 Lab	4/19	Due Monday 4/19	New Material from the Book
19-Apr	Chapter 2 Lab	4/26	Due Monday 4/26	New Material from the Book
26-Apr	Chapter 3 Lab	5/3	Due Monday 5/3	New Material from the Book
3-May	Chapter 4 Lab	5/10	Due Monday 5/10	New Material from the Book
10-	Chapter 5 Lab	5/17	Due Monday	New Material from the

May			5/17	Book
17-May	Chapter 6 Lab	5/24	Due Monday 5/24	New Material from the Book
24-May	Final Project/Lab A	5/31	Due Monday 5/31	New Material from the Book
31-May	Final Project/Lab B	6/9	Due Monday 6/7	New Material from the Book
7-Jun	Finish up Final Project/Lab			

You can download a pdf of the schedule here: **Schedule for CSC3031.pdf**

Quick Links to Resources

Netiquette Guidelines | **Help & Technical Support** | **Technology & System Requirements** **(https://help.pointloma.edu/TDClient/1808/Portal/KB/ArticleDet?ID=108349)** | **Canvas Student Guides** **(https://community.canvaslms.com/t5/Student-Guide/tkb-p/student)**

Course Summary:

Date	Details	Due
Mon Mar 1, 2021	Week 1: Overview	to do: 8am
	Syllabus	to do: 11:59pm
Mon Mar 8, 2021	Week 2: Overview	to do: 8am
Mon Mar 15, 2021	Week 3: Overview	to do: 8am
Wed Mar 17, 2021	Course Orientation	to do: 11:59am
Mon Mar 22, 2021	Week 4: Overview	to do: 8am
	Week 3: Homework (https://canvas.pointloma.edu/courses/56269/assignments/636007)	due by 11:59pm
Mon Mar 29, 2021	Week 5: Overview	to do: 8am
	Week 4: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642392)	due by 11:59pm

Date	Details	Due
	Week 4: Homework (https://canvas.pointloma.edu/courses/56269/assignments/636009)	due by 11:59pm
Mon Apr 5, 2021	Week 6: Overview	to do: 8am
	Week 5: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642393)	due by 11:59pm
	Week 5: Homework (https://canvas.pointloma.edu/courses/56269/assignments/636011)	due by 11:59pm
Mon Apr 12, 2021	Week 7: Overview	to do: 8am
	Week 6: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642394)	due by 11:59pm
	Week 6: Homework (https://canvas.pointloma.edu/courses/56269/assignments/636013)	due by 11:59pm
Mon Apr 19, 2021	Week 8: Overview	to do: 8am
	Week 7: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642395)	due by 11:59pm
	Week 7: Homework (https://canvas.pointloma.edu/courses/56269/assignments/636015)	due by 11:59pm
Mon Apr 26, 2021	Week 9: Overview	to do: 8am
	Week 8: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642396)	due by 11:59pm
	Week 8: Homework (https://canvas.pointloma.edu/courses/56269/assignments/636017)	due by 11:59pm
Mon May 3, 2021	Week 10: Overview	to do: 8am
	Week 9: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642397)	due by 11:59pm

Date	Details	Due
	Week 9: Homework (https://canvas.pointloma.edu/courses/56269/assignments/636019)	due by 11:59pm
Mon May 10, 2021	Week 11: Overview	to do: 8am
	Week 10: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642398)	due by 11:59pm
	Week 11: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642399)	due by 11:59pm
	Week 10: Homework (https://canvas.pointloma.edu/courses/56269/assignments/635993)	due by 11:59pm
Mon May 17, 2021	Week 12: Overview	to do: 8am
	Week 11: Homework (https://canvas.pointloma.edu/courses/56269/assignments/635995)	due by 11:59pm
Mon May 24, 2021	Week 13: Overview	to do: 8am
	Week 12: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642400)	due by 11:59pm
	Week 12: Homework (https://canvas.pointloma.edu/courses/56269/assignments/635997)	due by 11:59pm
Mon May 31, 2021	Week 14: Overview	to do: 8am
	Week 13: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642403)	due by 11:59pm
	Week 13: Homework - Final Project/Major Lab (https://canvas.pointloma.edu/courses/56269/assignments/635999)	due by 11:59pm
Mon Jun 7, 2021	Week 15: Overview	to do: 8am
	Week 14: R in the news (https://canvas.pointloma.edu/courses/56269/assignments/642404)	due by 11:59pm

Date	Details	Due
Wed Jun 9, 2021	Week 14: Homework - Final Project/Major Lab (https://canvas.pointloma.edu/courses/56269/assignments/636001)	due by 11:59pm