Check list for materials for Math 315-Sp 19
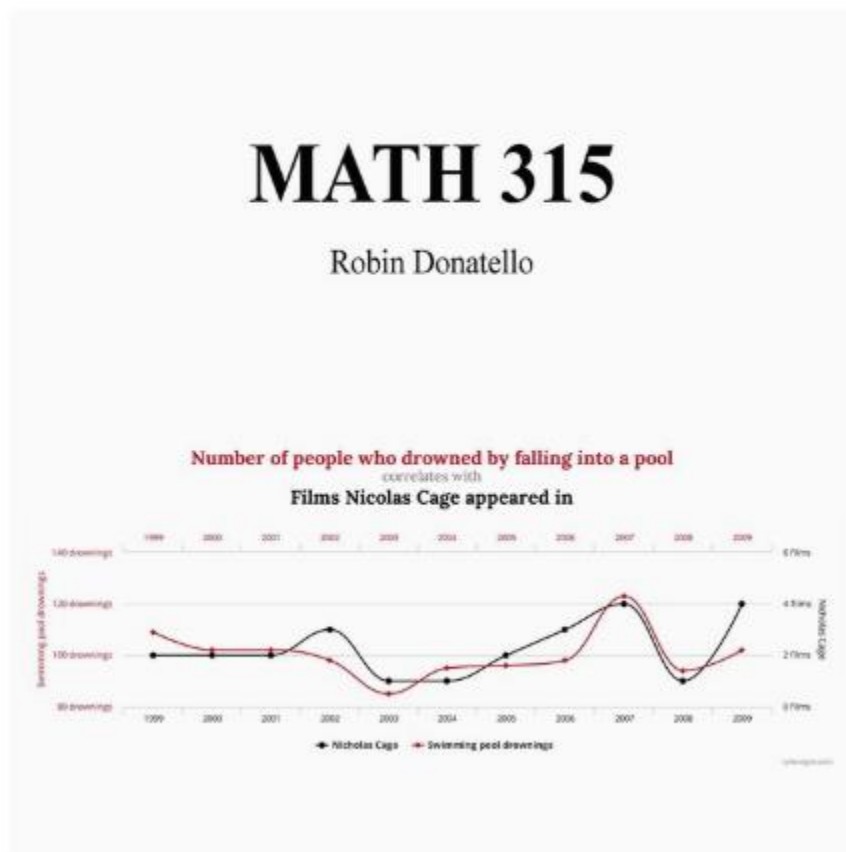
Intro Video https://670832.kaf.kaltura.com/media/Welcome+intro+video+sp19/0_non0k1h7

Watch this first.

Course packet

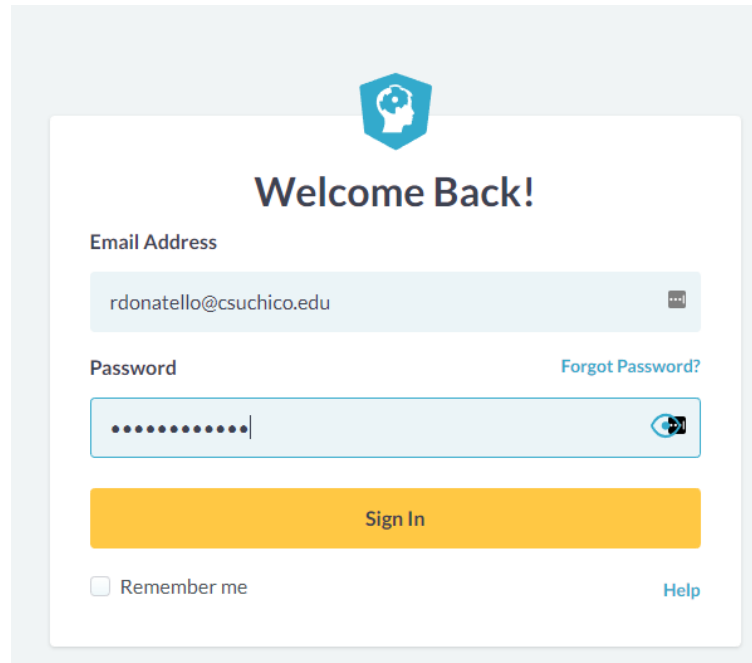Purchase B&W copy at Chico Packet Pro. ($24+tax) - http://www.chicopacketpro.com/

We will be writing in these throughout the semester. You can have this on exams. Prepare answers to examples prior to the discussion in class.

Data Camp:

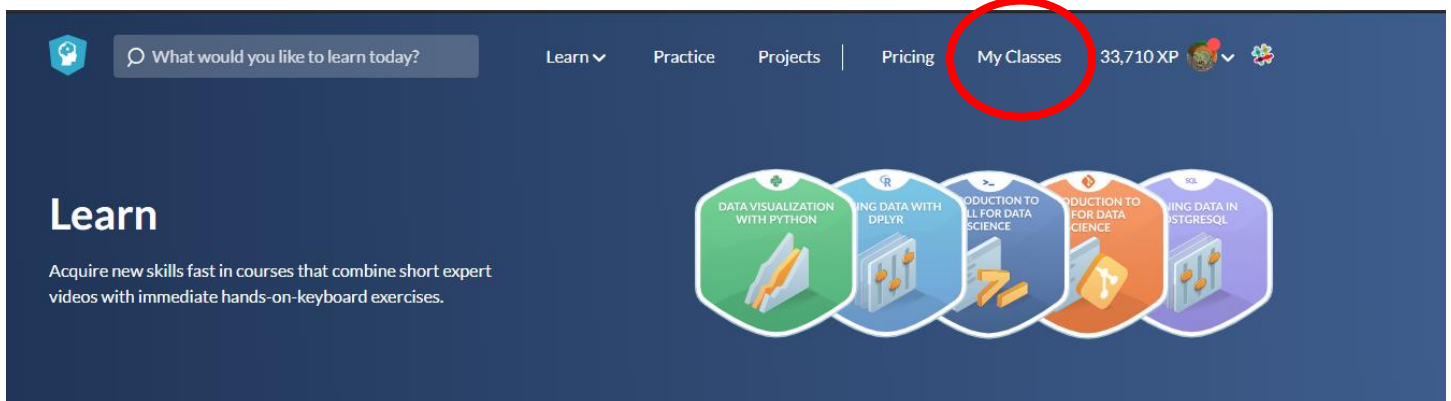An invitation has been sent to your Chico state email account. Sign in pages looks like this:

If the top of the page looks like below, click on "My Classes" in the top right.

When you click on Assignments on the right side, you see the list of assignments for the class. This is my screen so I can see how many people have already completed some of the lessons (These are used in Math 130 also).

Notice the "Orientation" assignment is due this Sunday (Google calendar has been updated).
Most Data Camp modules(assignments) come with a corresponding quiz in Blackboard Learn. This orientation assignment introduces you to the R Studio platform. It does NOT have a corresponding Blackboard Quiz. The other 4 do.

You can take these BBL quizzes twice to ensure you earn the grade you desire.

These questions come nearly directly out of the DataCamp modules, so it's suggested that you have them both open at once.

As part of our DataCamp Classroom you have access to ALL of the paid DataCamp courses for FREE for 6 months.

Slack:

Use this link to join the workspace : https://join.slack.com/t/math315-s19/shared_invite/enQtNTIwMzU5Mjc3NDEwLTgyOWE0NTQ4ZTU5ZmMwOGVhMzAyNjVmODQ5ZmNiODEwMTkxY2E3MmY4N2Y5MTZiYmIyZWUzMGExMGMyZWQyNDg

If you had/have joined a prior slack workspace, each workspace is treated independently of each other. So you have to make a new "account" for each workspace. Yes it's a pain, I just use the same email/password for all my workspaces.

This is for all outside of class communication. **I do not answer questions about coding over email.** We have an **#r-errors** channel specifically for debugging.
Part of Homework 01 is to post an introduction in the #introductions channel.
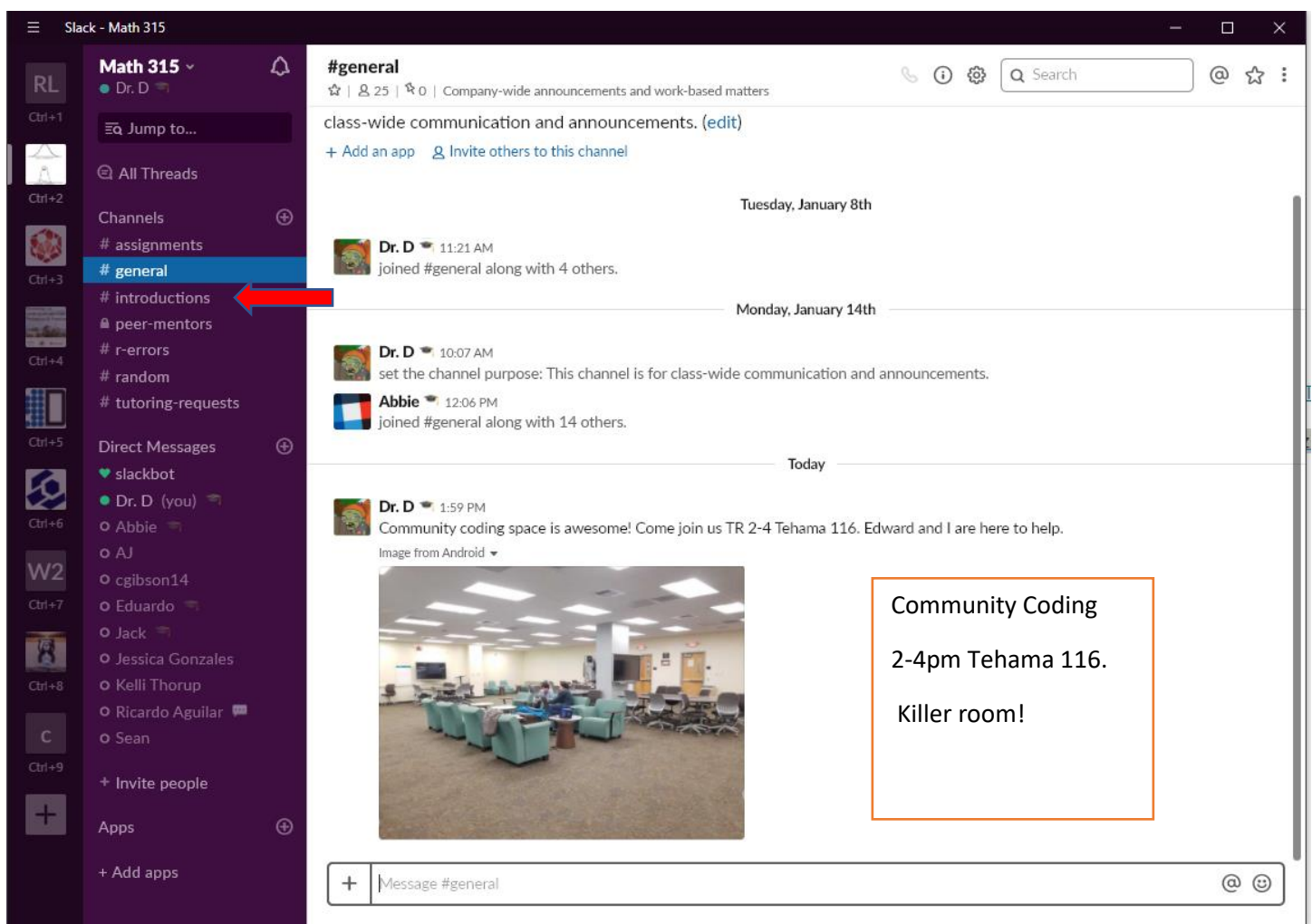
Once you join the workspace you can access the *web browser version* from the TOOLS menu on the course webpage (shown later).

But you must either download the desktop application, OR the phone application. Do not rely on remembering to log into the web version every day. You will miss important information and updates. This is where I send class-wide information and reminders.

Statistical Software Analysis Program R – with R Studio Interface

Option 1: R Studio Cloud

A preloaded, pre setup R & R Studio instance in the cloud! All ready and prepared just for you.

Join the 315-S19 workspace by using this link:
https://rstudio.cloud/spaces/8317/join?access_code=kJYmDHuqT7kxJkqxR75PusHxh%2FVdAkuoROTxWlTI

Once you join the workspace you can access from the TOOLS menu on the course webpage (shown later).

Fully set up R environments are called "Projects" I have set one up for you called "Stats_project".

Click on this to copy it to YOUR workspace!

You will work in this R project all semester on homework and your analysis project.

Check out these resources!

Primers == walk through tutorials on how to do various things like graphing in R.

Cheat sheets == when you just can't quite remember what that one geometry was.

Also notice that there's a link to DataCamp here also!

Option 2: Install all necessary programs and packages on your laptop

Instructions can be found on the HELP→ R Programming page of the course website. The TLDR version is watch the DataCamp lesson on working with R Studio (it's part of Homework 1), download all your necessary programs.

If you need help getting things installed or checking your installation please come to Community Coding or office hours.

Lecture Video

Primary source of content for this class. To be watched PRIOR to class. All links are found on the course website. Under MATERIALS → LECTURE NOTES / HOMEWORK / READING

The schedule (shown later) tells you which video corresponds with what section (so does the video titles)

Backup Textbook

https://www.openintro.org/stat/textbook.php?stat_book=os

Free PDF, or $15 for a really nice soft cover version. Excellent resource for more details and examples if you need more info on a particular topic. The red "Reading" Boxes in the course packet tell you which sections of this textbook correspond to the topic in the packet.
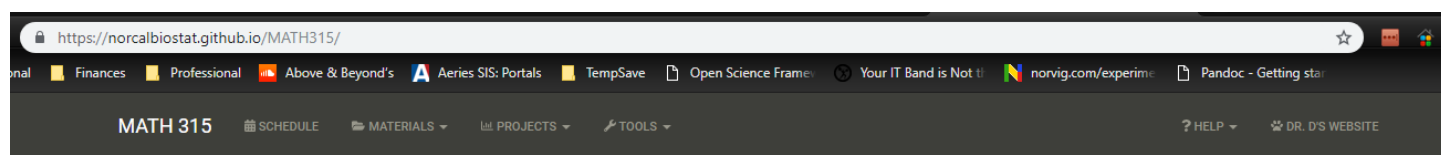

Bringing all materials into one place - The Course Website (Bookmark this)

https://norcalbiostat.github.io/MATH315/

The landing page shows announcements for the week.

Schedule

The schedule gives you a week/topic level overview of what we'll be covering that week. It has links to the corresponding video, information on the corresponding course packet section, topics with a planned quiz are marked with an (X), once the quiz links are live it will show up as a MWF or TR. Links to the homework instructions are under the "Assignments" column, what Data Camp modules are assigned, and a general due date for all work that week (except the quiz. More info on that later, keep reading)

Topics and Schedule

Last Updated: Tue Jan 22 8:26:05 AM

Week	Topic	PDS Video	Course Packet	Quiz	Assignments	Data Camp	Due
1 (1/20)	Overview	1	Intro		hw01_orientation	Working with R Studio IDE	1/27
	Pop vs Sample	2	1.1				
	Explanatory vs Response		1.2				
	Data structure & types	2 (7 min)	1.3	MWF TR		Intro to Basics	2/2
2 (1/27)	Codebooks	2 (12 min)		x	hw02_codebook*	Intro to R	2/2
	Literature review	3		x	hw03_lit_review		2/9

Due dates & the calendar – Google Calendar.

Clicking the Calendar buttons above the weekly schedule will take you to a Google Calendar. (MWF shown below)
This shows you the topics we are covering in class (Wednesday: Data introduction, Intro to R Studio Cloud, pop/sample), and when quizzes are due (e.g. Thursday the 24th, Tuesday the 29th), and when homework is due (e.g. Sun 27th, Sat 2nd)

Again note that due dates for quizzes will be DIFFERENT for the TR class. Consult your (purple) calendar.

20	21	22	23	24	25	26
	Intro to the class video		Data introduction	quiz on data types	CAVE talk	Data Camp: Working wit
	No school		Intro to R Studio Cloud		data structure and type:	Pre-course survey close
			pop/sample, explanator		Team formation	
27	**28**	**29**	**30**	**31**	**Feb 1**	**2**
hw01 orientation	Codebooks	quiz on lit review	lit review			Data camp: Intro to bas
						hw02 personal codebool

The dates on this calendar override what is shown in Blackboard learn. If there are discrepancies please let me know.

MATERIALS 📁 MATERIALS ▾

This page contains links to all the lecture videos, homework files, additional lecture notes as needed, and readings.

Homework

hw01_orientation	html	pdf	
hw01_orientation_template			Rmd
hw02_personal_codebook	html	pdf	
hw03_lit_review	html	pdf	
hw04_data_management	html	pdf	
hw05_univ_graphing_template			Rmd
hw06_biv_graphing_template			Rmd
hw08_bivariate_inference_template			Rmd
hw09_moderation_template			Rmd
hw10_regression_template			Rmd

Homework instructions are available as HTML or PDF.

The link to the homework found on the overall schedule page links to the same HTML page as shown here.

For Homework that is to be completed in R Markdown I have provided homework template files for you to use.

If you are using R Studio Cloud, the first HW01 template is pre-loaded for you.

If you will be using your own laptop, you will have to download these files and put them into your MATH315 folder.

Reading Materials

Adventures in R (Tippmann 2015)
Analyzing exam errors
Example_Research_Plan_from_Add_Health
How to Read a Journal Article
Importance of sharing code (Nature 2014)
Journals unite for reproducibility (Nature 2014)
Learning Your First Job (Leamnson 2002)
MAI and academic achievement in college students (Young, Fry, 2008)
Metacognition Awareness Inventory
PDS_Intro_Stat
RAD_course_notes_S19
sample_exam_1
Self Regulated Learning Questions (Neilson)
Thou Shalt Be Reproducible in Psychology (Mair 2016)
Why you should care about reproducible research (Blog post Revolution R 2011)

DO NOT RUN CODE FILES FROM YOUR BROWSER.

For sanity's sake you must put them into your class folder before you open them in R studio.

These are part of Homework 1

Google Drive

Open to only those in our class, and available through the TOOLS folder on the course website

Specifically, your campus email was provided access to this folder.

My Drive > Teaching > Math 315 Spring 19

Name ↑

- 01 Orientation
- 02 Research Question and Codebook
- 03 Literature Review
- 04 Data Management
- 05 Univariate Graphing
- 06 Bivariate Graphing
- 07 Research Proposal
- 08 Bivariate Inference
- 09 Moderation
- 10 Regression
- Poster prep (slides)
- Project Poster Drafts
- Project Poster Final Version
- Quizzes
- Peer Review Rotation

TOOLS ▾

- </> R STUDIO CLOUD
- G GOOGLE DRIVE
- SLACK (CLASS DISCUSSIONS)
- ZOOM (VIDEO CONFERENCE)
- DATA CAMP (LEARN TO CODE)
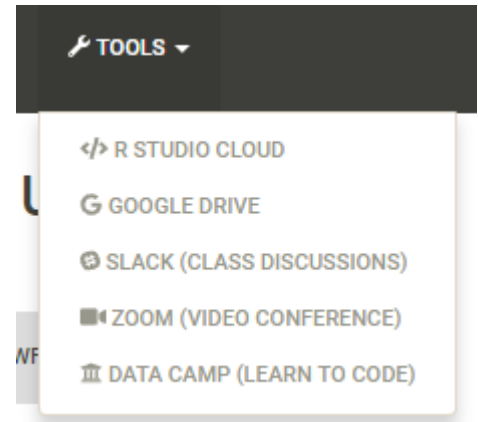
This is where you will be turning in all of your non-quiz homework.

Under the HELP tab on the course website there are more instructions for how to submit homework, how to do peer review, and what I'm looking for when grading.

? HELP ▾

- SYLLABUS
- PEER MENTORS
- SUBMITTING HOMEWORK
- R PROGRAMMING
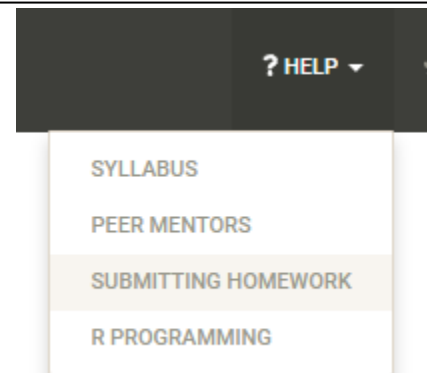
We'll talk about this **Peer Review Rotation Spreadsheet** as Homework 02 gets closer to being due.

Quizzes

Preparation quizzes are done on the night *prior* to the topic being discussed in class. This being a flipped class and all, you are responsible for watching the video and learning the initial content outside of class. This quiz is a "check" to see what you have learned so far. I will check the scores that next morning and we'll fill in some gaps during the next class period. You'll have another chance to do a Group quiz at that point to re-earn points back.

When you're ready to take the quiz, click on the link in the class schedule for your class meeting time.

Week	Topic	PDS Video	Course Packet	Quiz	Assignments	Data Camp	Due
1 (1/20)	Overview	1	Intro		hw01_orientation	Working with R Studio IDE	1/27
	Pop vs Sample	2	1.1				
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	Data structure & types	2 (7 min)	1.3	MWF TR		Intro to Basics	2/2
2 (1/27)	Codebooks	2 (12 min)		x	hw02_codebook*	Intro to R	2/2

You will be required to login to your Chico State google account before taking the quiz (this is so you get credit!)

These quizzes are administered through Google Forms and will look something like this:

This is a test quiz!

Your email address (**rdonatello@mail.csuchico.edu**) will be recorded when you submit this form. Not you? Switch account

Do you like Cilantro?

○ No

○ It's gross

○ Heck no

○ What is cilantro?

SUBMIT

Getting Help

- List of resources can be found at https://norcalbiostat.github.io/MATH315/help_R.html
- Ask in the #assignment Slack channel
- Ask for tutoring in the #tutoring-request channel
- Visit the Math tutoring lab on the 4th floor
- Come to office hours. TBD – Help me decide! https://docs.google.com/forms/d/e/1FAIpQLSengW9P4_iP5G3SdJ3DUMkqdNRB3RrJdss0otx0_Acev0EMAQ/viewform
- Go to the **Contact** page of my personal website and book an appointment with me http://www.norcalbiostat.com/

Community Coding! Come enjoy our large space to work on your projects and homework. Commit to coming at least once a week and get 1 unit. Enroll in Math 290-02. TR 2-4pm, MLIB 442.

Research Data

You will be conducting original research on topics that interest you. You will use data that is already collected but be warned – it is not pre-cleaned up data! That is part of the journey in this class is how to be the boss of your data!

Under the Projects tab on the course website you'll find a link to the Project Data

This takes you to a Google Drive where you will find seven data sets for you to choose from.

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PROJECT INSTRUCTIONS

PEER REVIEW ASSIGNMENT

PROJECT DATA (GOOGLE DRIVE)

My Drive > Teaching > Data ▾ 👥

Name ↑

📁 Forest caterpillar ecology experimental study

📁 MarsCrater

📁 National Epidemiologic Survey on Alcohol and Related Conditions (NESARC)

📁 National Longitudinal Study of Adolescent to Adult Health (Add Health)

📁 Newly Licensed Registered Nurse Survey

📁 Outlook on Life Survey

📁 Traffic Stops in Connecticut

Be sure to read the documentation in each folder to get to learn a little about the data sets you have available.

You will be paired up with individuals who are interested in the same research topic as you to do the project together.