

Check list for materials for Math 315-Sp 19

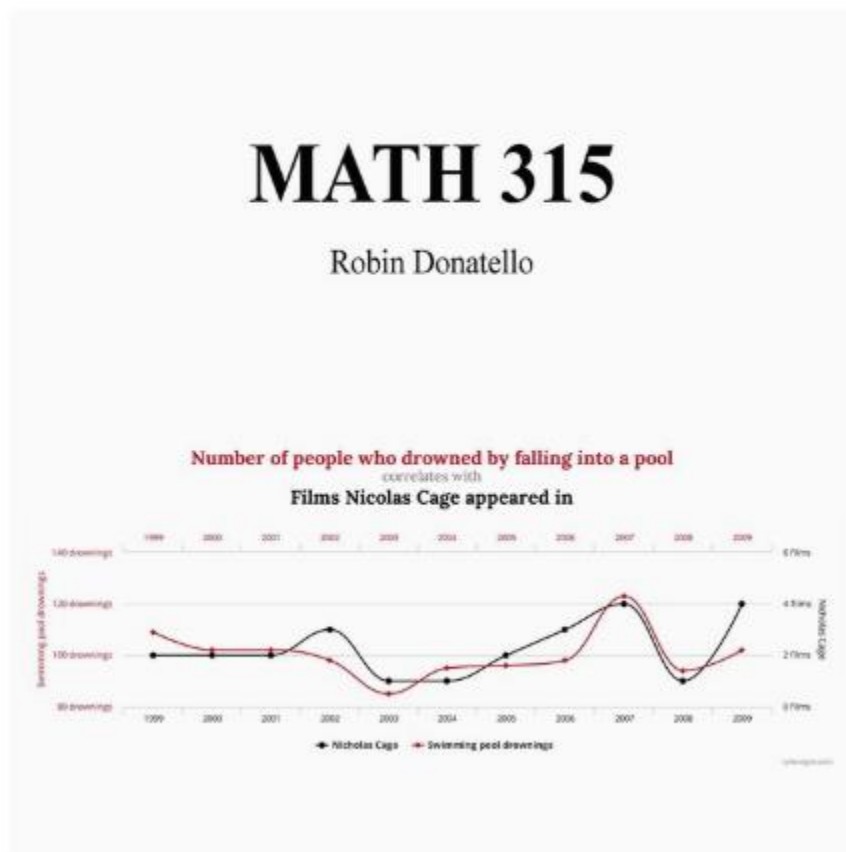
Intro Video https://670832.kaf.kaltura.com/media/Welcome+intro+video+sp19/0_non0k1h7

Watch this first.

Course packet

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

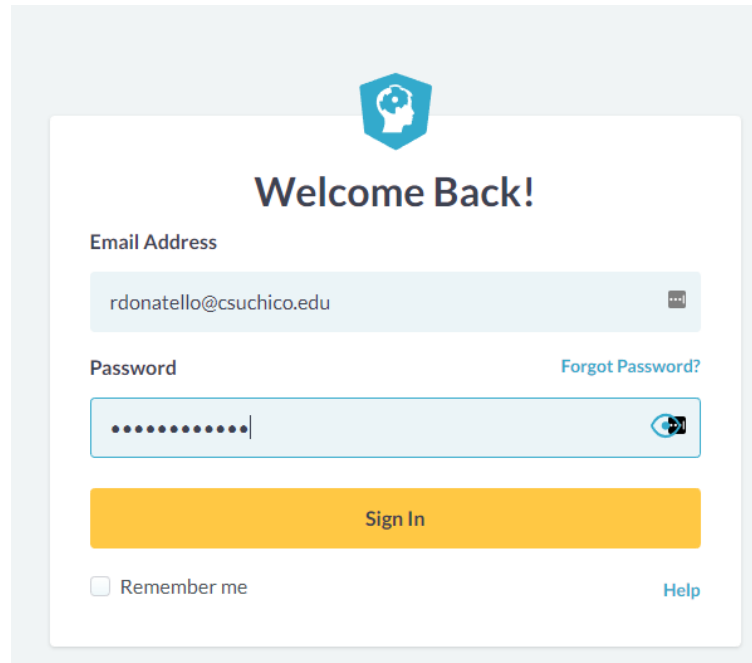
We will be writing in these throughout the semester. You can have this on exams. Prepare answers to examples prior to the discussion in class.



1/22/2019 9:50:18 PM

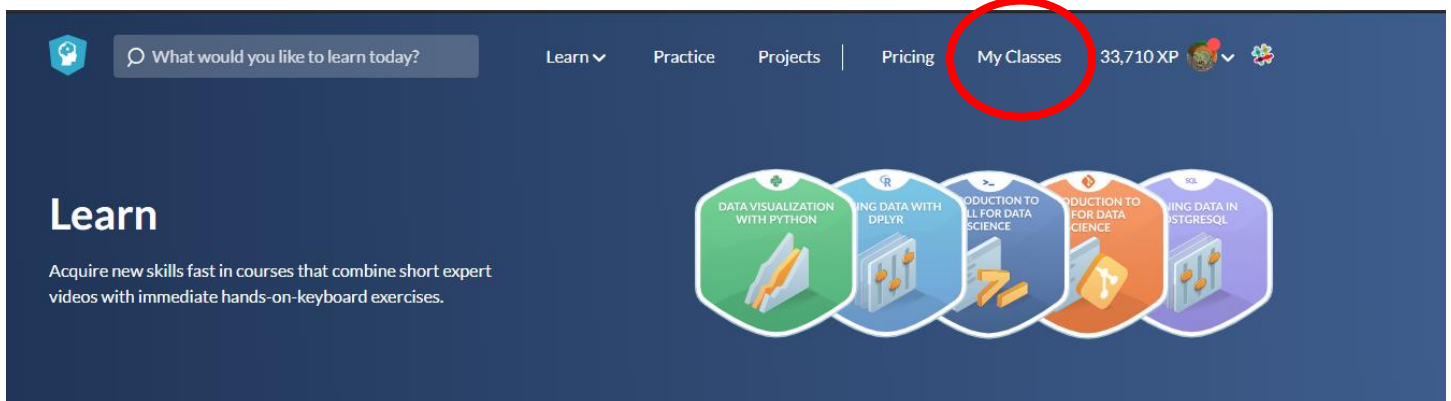
Data Camp:

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



The image shows a "Welcome Back!" sign-in page for DataCamp. At the top is the DataCamp logo (a blue hexagon with a white head icon). Below it, the text "Welcome Back!" is centered. There are two input fields: "Email Address" with the value "rdonatello@csuchico.edu" and "Password" with masked dots. To the right of the password field is a link "Forgot Password?". Below the fields is a large orange "Sign In" button. At the bottom left is a checkbox labeled "Remember me", and at the bottom right is a link "Help".

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



1/22/2019 9:50:18 PM

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).

NAME	ASSIGNED TO	ASSIGNED AT	DUE BY	TYPE	0	0	0	>
Introduction to data	Organization	Jan 19, 2019	Feb 23, 2019, 23:59 PST	Complete Chapter	0	0	0	>
Introduction	Organization	Jan 19, 2019	Feb 16, 2019, 23:59 PST	Complete Chapter	1	0	0	>
Introduction to R	Organization	Jan 19, 2019	Feb 2, 2019, 23:59 PST	Complete Chapter	1	0	0	>
Intro to basics	Organization	Jan 19, 2019	Feb 2, 2019, 23:59 PST	Complete Chapter	18	0	0	>
Orientation	Organization	Jan 18, 2019	Jan 27, 2019, 23:59 PST	Complete Chapter	2	0	0	>

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.

192X-MATH315-01-4329 Assignments

Build Content Assessments Tools Partner Content

Data Camp: Intro to Basics
Questions on the Intro to Basics chapter of the Introduction to R Data Camp Cou

Data Camp: Intro to R
A selection of questions **directly** from the Introduction to R lesson on Data Camp

Data Camp: Intro to ggplot2
Questions from the Data Camp Intro to ggplot2 chapter.

Data Camp: Intro to Data
A set of questions based on the Data Camp: Intro to Data lesson

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.

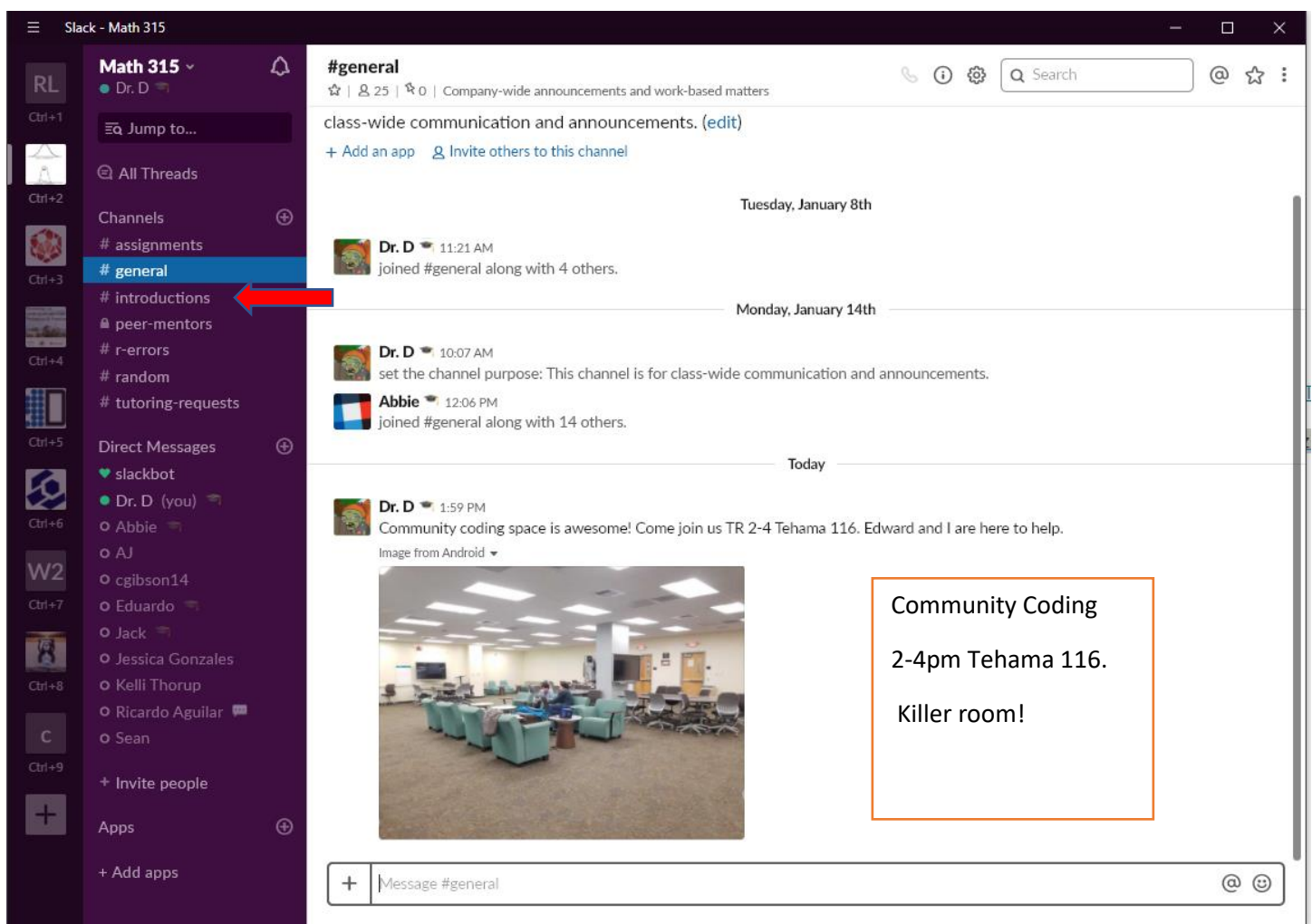
Slack:

Use this link to join the workspace : https://join.slack.com/t/math315-s19/shared_invite/enQtNTlwMzU5Mjc3NDEwLTgyOWE0NTQ4ZTU5ZmMwOGVhMzAyNjVmODQ5ZmNiODEwMTkxY2E3MmY4N2Y5MTZiYmlyZWUzMGEwMGMyZWQyNDg

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%2FVdAkuoROTxWITl

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

R Studio Cloud

Math 315 - S19

Projects Members Info

Spaces

Your Workspace

Math 315 - S19

New Space

Learn

Guide

What's New

Primers

DataCamp Courses

Cheat Sheets

Feedback and Questions

Info

All Projects

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.

ASSIGNMENT stats_project

RD Robin Donatello

HW 1 Orientation to the class and stuff

Created Jan 11, 2019 12:55 PM View 11 derived projects ...

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.

MATH 315
SCHEDULE
MATERIALS
PROJECTS
TOOLS
? HELP

FAQ about R

Last Updated 2019-01-21 15:40:11

Where do I get access to R and R Studio?

- Option 1: Use R Studio in the cloud.
 - Free account that you can access anywhere.
 - I have setup the basic environment for you already. Ready to go immediately.
 - The link to our class working environment can be found in blackboard.
- Option 2: Download and install R, R Studio, and a lightweight version of LaTeX.
 - Need help? Check out the DataCamp lesson on working with R Studio (Orientation chapter only) <https://www.datacamp.com/courses/working-with-the-rstudio-ide-part-1>
 - You will then have to install all the necessary packages that we use in this class.
 - You will also have to set the following preferences:
 - In RStudio the file menu go to Tools then Global Options.
 - Uncheck "Restore .RData into workspace at startup" and "Always save history"
 - Where it says "Save workspace to .RData on exit:" Select "Never"
 - Click apply then ok.

SYLLABUS
PEER MENTORS
SUBMITTING HOMEWORK
R PROGRAMMING

Don't skip setting these preferences for all of our sanity's sake!!

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

MATH 315
SCHEDULE
MATERIALS
PROJECTS
TOOLS
? HELP
DR. D'S WEBSITE

PDS Videos
Homework
Additional Lecture Notes
Reading Materials

LECTURE NOTES/HOMEWORK/READING
COURSE PACKET
DATA FROM COURSE PACKET

Lecture Video

Introduction to Passion Driven Statistics (5:49) https://youtu.be/_8A0zx51BKs

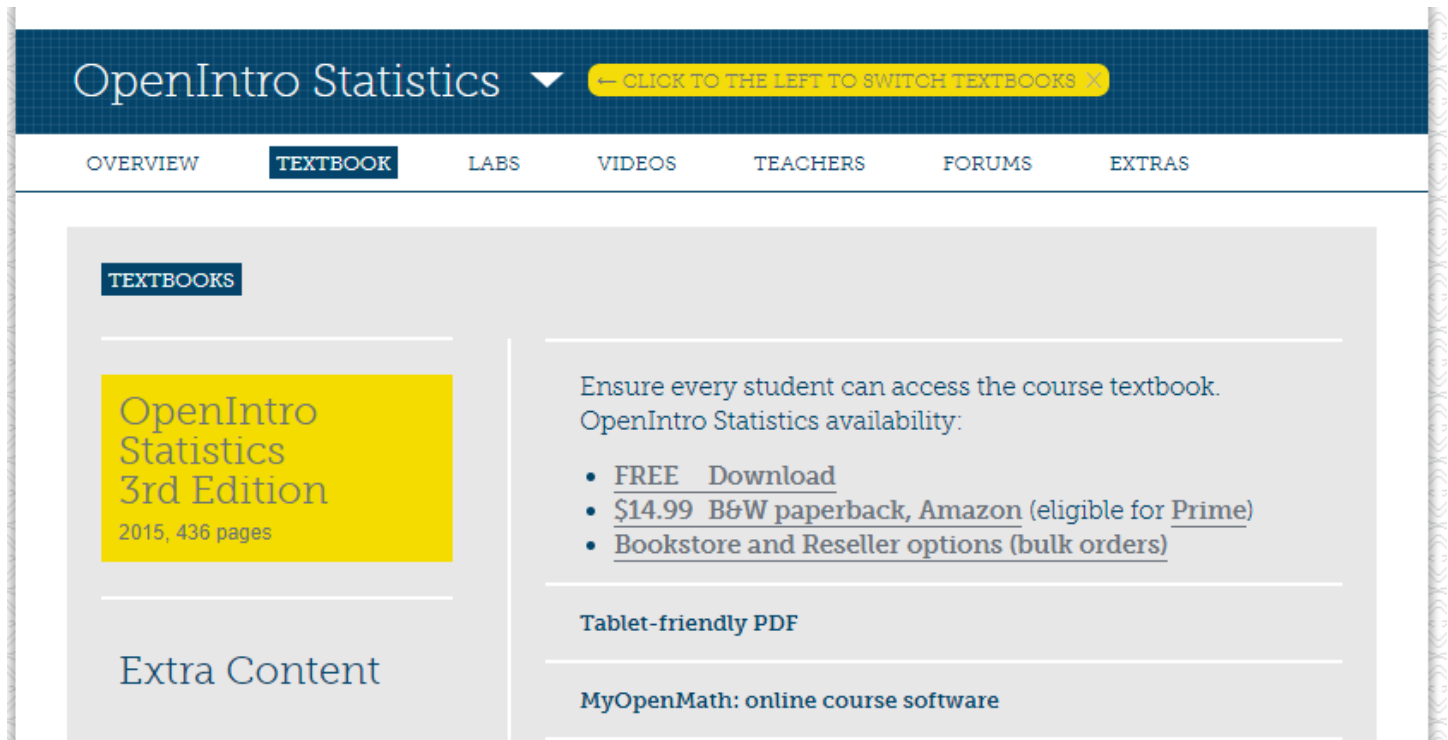
- Video 02 Data Sets and Code Books (24:37) <https://passiondrivenstatistics.com/2015/06/02/chapter-2-draft-version/>
- Video 03 Literature Review (7:57) <https://passiondrivenstatistics.com/2015/09/16/chapter-04/>
- Video 04 Working with Data (33:34) <https://passiondrivenstatistics.com/2015/12/18/04/>
- Video 05 Data Management (33:28) <https://passiondrivenstatistics.com/2016/01/08/r-chapter-7/>
- Video 06 Graphing: One Variable at a Time (31:33) <https://passiondrivenstatistics.com/2016/01/20/r-chapter-8/>
- Video 07 Graphing Relationships (36:11) <https://passiondrivenstatistics.com/2016/03/28/r-chapter-9/>
- Video 08 Hypothesis Testing (30:46) <https://passiondrivenstatistics.com/2015/07/15/chapter-10/>
- Video 09 ANOVA (29:48) <https://passiondrivenstatistics.com/2016/05/11/r-chapter-11/>
- Video 10 Chi-Square Test of Independence (28:36) <https://passiondrivenstatistics.com/2016/06/29/r-chapter-12/>
- Video 11 Correlation (13:43) <https://passiondrivenstatistics.com/2019/01/08/11-correlation/>
- Video 12 Moderating (21:29) <https://passiondrivenstatistics.com/2016/08/20/r-chapter-14/>
- Video 13 The Question of Causation (14:06) <https://passiondrivenstatistics.com/2018/11/13/13-the-question-of-causation/>
- Video 14 Multivariable Models and Confounding (57:43) <https://passiondrivenstatistics.com/2016/10/06/r-chapter-17/>
- Video 15 Writing for your poster (16:03) <https://passiondrivenstatistics.com/2018/06/08/chapter-18-writing-for-your-poster-presentation/>

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.



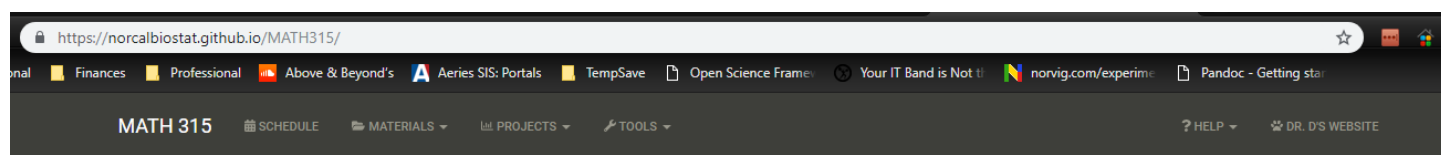
The screenshot shows the OpenIntro Statistics website. The header is dark blue with the text "OpenIntro Statistics" and a yellow button that says "← CLICK TO THE LEFT TO SWITCH TEXTBOOKS →". Below the header is a navigation bar with links: OVERVIEW, TEXTBOOK (highlighted), LABS, VIDEOS, TEACHERS, FORUMS, and EXTRAS. The main content area has a sidebar on the left with a "TEXTBOOKS" tab and a yellow box for "OpenIntro Statistics 3rd Edition" (2015, 436 pages). The main content area on the right has the heading "Ensure every student can access the course textbook. OpenIntro Statistics availability:" followed by a bulleted list: "• FREE Download", "• \$14.99 B&W paperback, Amazon (eligible for Prime)", and "• Bookstore and Reseller options (bulk orders)". Below this list are two more sections: "Tablet-friendly PDF" and "MyOpenMath: online course software".

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

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

The landing page shows announcements for the week.

1/22/2019 9:50:18 PM



This is the course website for **Applied Statistical Methods 1** course taught by Dr. Robin Donatello in Spring 2019. This landing page is used for posting of regular announcements and information for students of the class.

Announcements

1/21/19 - **Week 1** Welcome to Spring 19!

- This course website contains all materials except the textbook for this class. Be sure to familiarize yourself with the organization. You will be here a lot. Bookmark this page.
- Specifically click on and explore items in the top navigation bar.
- Take this survey to help choose when I should hold Office Hours <https://goo.gl/forms/kuctl3ktoo1Cpsio1>
- Check Blackboard for links to the required course materials (also available on the syllabus)
- Watch this intro video for an overview of the class and how to successfully prepare for week 1!
https://670832.kaf.kaltura.com/media/Welcome+intro+video+sp19/0_non0k1h7

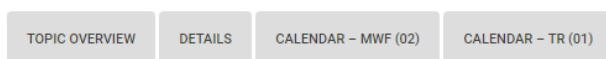
Schedule

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)

1/22/2019 9:50:18 PM

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 No school			Data introduction Intro to R Studio Cloud pop/sample, explainer	quiz on data types	CAVE talk data structure and types Team formation	Data Camp: Working wi Pre-course survey close
27	28	29	30	31	Feb 1	2
hw01 orientation	Codebooks	quiz on lit review	lit review			Data camp: Intro to bas hw02 personal codebook

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

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 (Leamson 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

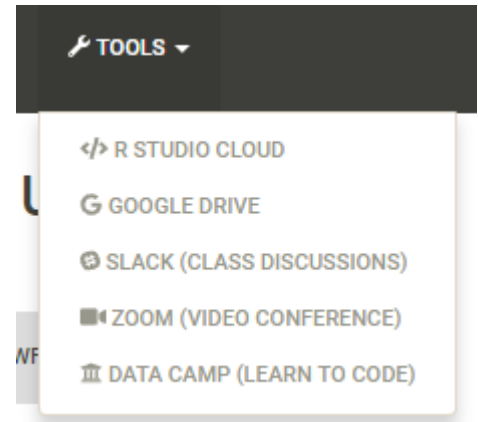
Open to only those in our class, and available through the TOOLS folder on the course website

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

My Drive > Teaching > Math 315 Spring 19

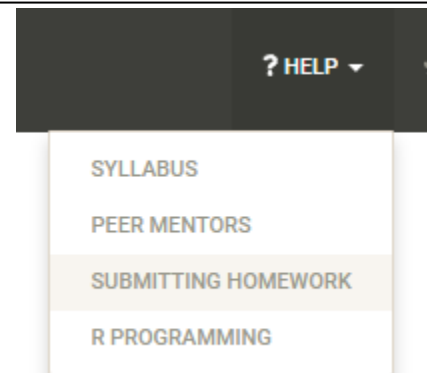
Name ↑

	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 



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.



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.

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1 (1/20)	Overview	1	Intro		hw01_orientation	Working with R Studio IDE	1/27
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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.

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

 PROJECTS ▾

 TOOLS ▾

PROJECT INSTRUCTIONS

PEER REVIEW ASSIGNMENT

PROJECT DATA (GOOGLE DRIVE)

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.