

# Instruction Team



- Instructor
  - Professor Jie Peng
  - [jiepeng@ucdavis.edu](mailto:jiepeng@ucdavis.edu)
- Teaching assistants
  - Yan-Yu Chen
    - ✦ [ynychen@ucdavis.edu](mailto:ynychen@ucdavis.edu)
  - Wookyeong Song
    - ✦ [wksong@ucdavis.edu](mailto:wksong@ucdavis.edu)

# Lectures & Labs



- Lectures/Labs

- MW 10:00am – 11:50am, TLC 3214
- Recorded and posted on canvas (within 1~2 hours)

*Privacy disclosure: The recordings (including room audio) run from 3 minutes before to 2 minutes after the scheduled lecture time.*

- Office hours through Zoom

- Jie Peng: Tue., 1:00pm - 2:30pm
- Yan-Yu Chen: Wed., 4:00pm - 6:00pm
- Wookyeong Song: Tue., 6:00pm – 7:00pm

# Grading



- **Composition:**
  - Final exam: 25%
  - Midterm exam: 20%
  - Take-home quiz: 10%
  - Weekly homework: 15%
  - Final project: 30%
- **Drop date: 10/4/2022** *(this is a 10-day drop class)*
- **P/NP Deadlines: 10/25/2022**

# In Class Exams



- Open notes:
  - ✦ Mobile devices (phones, tablets, laptop, etc.) **NOT** allowed
  - ✦ Handheld calculator allowed
- Midterm Exam:
  - In class on Wed., Oct. 19
- Final Exam:
  - In class on Wed., Nov. 30

# Take-home Quiz



- Posted and collected through canvas
- **Must be finished independently**
  - Collaboration with or seeking help from any person or service is prohibited.
- Starting on **Wed., Nov. 9 at 8:00am**
  - Available on canvas until **Thur., Nov. 10 at 2:00pm**
  - Must be finished within a **150-minutes** (2.5-hour) window
  - No lecture on Wed., Nov. 9

# Homework



- Posted and collected through canvas
- Discussion allowed
- Writing up and coding must be done independently
- No late homework accepted
- One lowest score dropped

# Final Project



- Mandatory for a passing grade
- May form groups with **up to 3 members**
  - You may do a solo-project, but teaming up is highly encouraged
- Project report and presentation video due on **Mon., Dec. 5, 11:59pm**
- More details coming later

# Textbook & Prerequisite



- **Textbook:**

- Optional: Applied Linear Statistical Models by Kutner, Nachtsheim, Neter and Li

- **Prerequisite:**

- One course in statistics and probability, one course in linear algebra
- Familiar with basic statistical and probabilistic concepts including random variables, mean, variance, covariance, confidence interval, and hypothesis testing
- Familiar with matrix algebra including addition, subtraction, multiplication, inversion, and projection
- Basic programming skills
- Go through the review materials (posted on canvas)

*If you lack sufficient background, you may consider taking STA 108 instead (two sections are offered in fall 2022), which covers similar material albeit at a lower level.*

- **Computing:**

- Computing is an important component of this course. R is needed for homework, projects and exams/quizzes.
- R will be taught during the lab sessions.



# Communication & Web Resources



- For questions related to course materials, please come to office hours.
- For general administrative questions, contact us through emails or come to the office hours.
- [canvas.ucdavis.edu](https://canvas.ucdavis.edu)
  - recordings, lecture notes, handouts, homework, solutions, quizzes, grades, announcements, submission, etc.

# Code of Academic Conduct



- Per University policy, you are required to acknowledge the code of academic conduct for each registered course:  
<https://ossja.ucdavis.edu/code-academic-conduct>
- Seeking information on past exams/quizzes or homework, or seeking help on homework, projects or exams/quizzes from anyone/any service outside of this class, is prohibited.

# Copyright Disclosure



- All content of this course including (but not limited to) lecture notes, handouts, recordings, homework, projects, exams/quizzes, solutions, are protected by copyright and may not be shared, uploaded, or distributed.
  - Posting or sharing class zoom information is prohibited.
  - Electronically capturing or re-disclosing class recordings is prohibited.

# Campus Covid Policy (as of 9/20/2022)



- <https://campusready.ucdavis.edu/public-health-policies-requirements>

All individuals, regardless of vaccination status, may not enter or remain on university property if:

- They have tested positive for COVID-19 within the past 10 days
- They have symptoms of COVID-19 (not related to a chronic condition)

- <https://campusready.ucdavis.edu/instructors>

**Anyone diagnosed with COVID-19 must report it to the university within Health-e-Messaging** unless they received a positive result through university testing. They will then receive an automated email with further instructions, which includes notifying their instructors when they will be able to return to class.

- Send any questions to [campusready@ucdavis.edu](mailto:campusready@ucdavis.edu)

# Syllabus



- **Part I: Simple Regression**

- **Week 0: Sept. 21** -- Course Overview; Review of Basics
- **Week 1: Sept. 26** -- Simple Regression Model; Least Squares Estimation
- **Week 2: Oct. 3** -- Inference under Normal Error Model; Analysis of Variance
  - ✦ *Thur., Oct. 6, 11:59pm: hw1 due*
- **Week 3: Oct. 10** -- Model Diagnostics; Simple Regression in Matrix Form
  - ✦ *Thur., Oct. 13, 11:59pm: hw2 due*
- **Week 4: Oct. 17** -- Geometric Interpretation of Regression
  - ✦ **Midterm: Wed., Oct. 19, in class**
  - ✦ *Thur., Oct. 20, 11:59pm: hw3 due*

*(subject to change)*

# Syllabus (Cont'd)



- **Part II: Multiple Regression**

- **Week 5: Oct. 24** -- Multiple Regression Model: Inference; Extra Sum of Squares, General Linear Test
  - ✦ *Thur., Oct. 27, 11:59pm: hw4 due*
- **Week 6: Oct. 31** -- Standardized Regression Model; Multicollinearity; Identifiability;
  - ✦ *Thur., Nov. 3, 11:59pm: hw5 due*
- **Week 7: Nov. 7** -- Qualitative Predictors; Polynomial Regression;
  - ✦ *Quiz: available from Wed., Nov. 9, 8:00am to Thur., Nov. 10 2:00pm* (Notes: no class on Nov. 9)
  - ✦ *Thur., Nov. 10, 11:59pm: hw6 due*

*(subject to change)*

# Syllabus (Cont'd)



- **Part III: Model Building**
  - **Week 8: Nov. 14** -- Model building Overview; Model Selection; Bias-Variance Trade-off
    - ✦ *Thur., Nov. 17, 11:59pm: hw7 due*
  - **Week 9: Nov. 21** -- Model Diagnostics: Outliers; Influential Cases
    - ✦ *Thur., Nov. 24, 11:59pm: hw8 due*
  - **Week 10: Nov. 28**
    - ✦ *Final exam: Wed., Nov. 30, in class*
- **Project due on Mon., Dec. 5, 11:59pm**

*(subject to change)*