CAAP STATISTICS

Summer 2022

Instructor: Sowon Jeong	**TA**: Tala Germani
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Schedule: Mon, Tue, Thu, Fri 11:00 - 12:20 pm in Cobb 430

Office Hours:

Office hours will be held via Zoom. In-person OH will be made upon request.

Sowon Jeong: Mon, Fri 1:00pm - 2:00pm and by appointment

Tala Germani: Tue, Thu 1:00pm - 2:00pm and by appointment

Course Description:

This course aims to introduce students to statistical methods and data analysis using statistical software, widely applicable to a wide range of studies. We will be motivated by practical questions from biological, physical, and social sciences. The course aims to nurture the intuition to understand real-life data and, at the same time, to explain the data based on suitable statistical theory. Students will learn to take a question such as

* Does this medicine effectively prevent a cold?
* Does this commercial bring more customers to the store?

and will be able to convert these questions into accessible statistical hypotheses:

* Is the difference in the proportion of having a cold "significant" between the groups?
* Does the number of customers visiting the store "significantly" increase after the commercial?

Objective 1) Be familiar with basic statistics concept

2) Gain reasonable intuition about data anlaysis

Course Requirement: No prerequisite required. *Make sure to bring your own labtop for R Session*

Textbook: OpenIntro Statistics (https://www.openintro.org/book/os/)

Quiz: 2 Quizzes (Tentative)

Grading: Class Participation **50%**, Quiz **10%**(Each), Project **30%**

[Course Schedule]

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Exam/ Review	Lecture	Lab

	Monday	Tuesday	Wednesday	Thursday	Friday
Wk1	4-Jul	5-Jul Lec 01	6-Jul	7-Jul Lec 02	8-Jul Lec 03
	Independence Day	Intro to Course	**No class**	Intro to Data	Intro to R
				Chapter 1	R Session 1
Wk2	11-Jul Lec 04	12-Jul Lec 05	13-Jul	14-Jul Lec 06	15-Jul Lec 07
	Summarizing Data	R Session 2	**No class**	Probability	R Session 3
	Chapter 2	R Markdown		Chapter 3	Importing Data
Wk3	18-Jul Lec 08	19-Jul Lec 09	20-Jul	21-Jul Lec 10	22-Jul Lec 11
	Distribution	R Session 4	**No class**	Intro to Project	Intro to Inference
	Chapter 4	Visualization		**Quiz 1**	Chapter 5
Wk4	25-Jul Lec 12	26-Jul Lec 13	27-Jul	28-Jul Lec 14	29-Jul Lec 15
	R session 5	Inference on num data	**No class**	R session 6	Inference on cat data
	EDA	Chapter 7		**Project discussion**	Chapter 6
Wk5	1-Aug Lec 16	2-Aug Lec 17	3-Aug	4-Aug Lec 18	5-Aug Lec 19
	R Session 7	Linear Regression	**No class**	R session 8	Linear Regression
	Project discussion	Chapter 8		**Project discussion**	**Project Due**
Wk6	8-Aug Lec 20	9-Aug Lec 21	10-Aug	11-Aug Lec 22	12-Aug Lec 23
	Presentation Day	**Final Review Feedback Q & A**	**No class**	**Quiz 2**	**Program Ends**