Teaching Portfolio

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Documentation of Teaching

Below are course descriptions and student ratings and comments regarding my instruction for the courses where I have served at the instructor: Intro to Cognition (Pennsylvania State University Fall 2016, Spring 2017), Data and Model Programming for Computational Social Sciences (University of California San Diego Spring 2020, Summer 2020), and Visual Cognition (University of California San Diego, Fall 2020). I am currently assigned to instruct Illusions and the Brain (University of California San Diego Winter 2021) and Data and Model Programming for Computational Social Sciences (University of California San Diego Spring 2021).

Teaching Mission

I always valued educators who were dually passionate about both the subject matter and teaching. As an instructor, I strive to create similar interest and engagement in a positive, constructive environment, with the goal of helping students to learn and thrive. In my experience, active student engagement in class is crucial in achieving this end. I continually turn to the literature and apply findings from research on human learning to improve my courses, such as levels of processing theory (Craik & Tulving, 1975), which involves discussion of content within a broader context. Furthermore, I create lessons that utilize a variety of examples and demonstrations and that aim to be accessible to all students.

Diversity and Inclusion

In the classroom, my goal is to create an equitable environment for all students of different races, ethnicities, genders, sexual orientation, and ability. This principle shapes how I mentor students and interact with colleagues.

With regard to course content, psychological research too often operates under the assumption that it is acultural or experienced equally by everyone. For example, the Müller-Lyer illusion, which is commonly portrayed as two arrow-like figures of the same length that can be perceived as different lengths, was considered and still sometimes presented as a given phenomenon for all people, irrespective of culture. However, this illusion is not experienced by all peoples and may simply have originated from modern environments (Segall et al., 1966). These findings importantly challenge the belief of psychological universals and underscore the integral intersection of culture and cognitive psychology. As a professor at Bowdoin, I would integrate this intersection into my teaching.

In addition, I understand that the cost of textbooks can be exorbitant, which places a burden on students, especially those from low socioeconomic backgrounds. More recently, I have used free resources (e.g., open access articles) instead textbooks, which attenuates financial burdens.

Visual Cognition

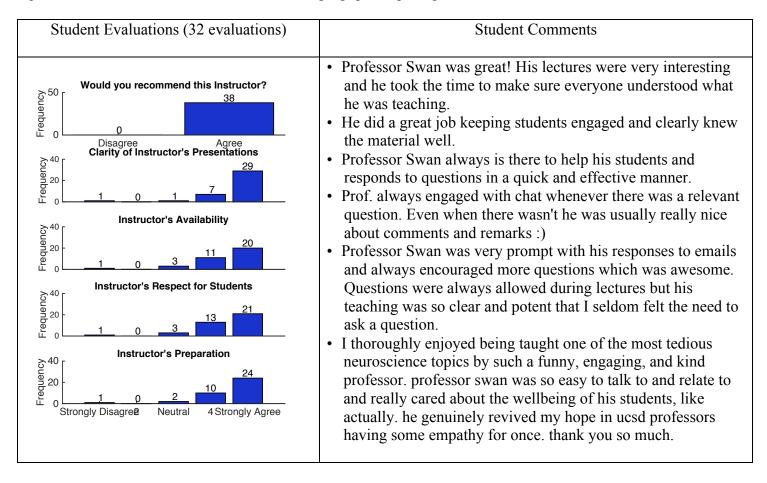
Instructor (50 students)

Fall Quarter 2020

University of California, San Diego

Course Description: This course provides an overview of high-level visual perception, and of how visual perception intersects with attention, memory, and concepts. Topics may include an introduction to the visual system with an emphasis on high-level visual regions; object recognition, face recognition, scene recognition and reading; visual attention, including eye movements during scene perception; and visual working memory.

Visual Cognition is an upper level Cognitive Psychology course. Given the Covid-19 pandemic, the course was instructed remotely, with lectures being offered over zoom and recording of those lectures uploaded after class to accommodate students who may have not be able to join the synchronous lectures. In addition to weekly quizzes, students were also tasked with writing a paper requiring them to do a literature review.

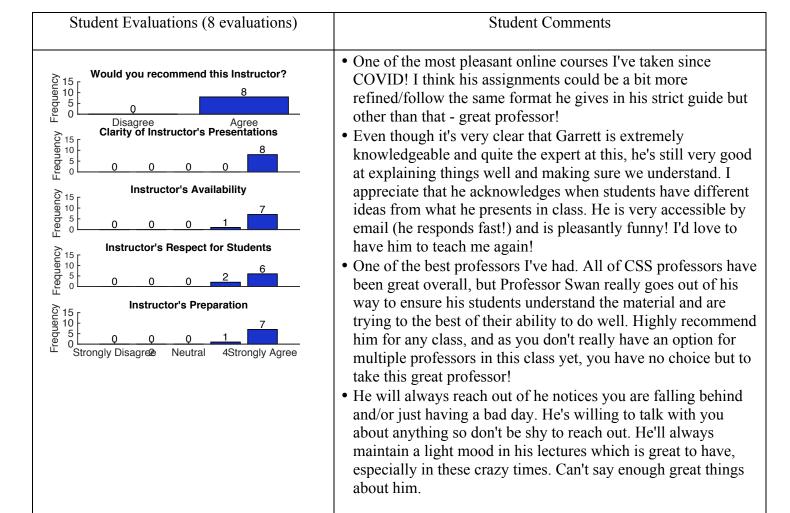


Data and Model Programming for Computational Social Science

Instructor (11 students) Summer Session II 2020 University of California, San Diego

Course Description: This course explores the use of computational methods across the social sciences. Topics include thinking like a computational social scientist; research design for big data; legal and ethical dimensions of Computational Social Science (CSS). Students will implement demonstrations of these methods in Python through data visualization, selection, and modeling. At the end of the course you should have a good understanding of how to visualize, clean, and organize data for data analysis and modeling. Throughout the course, we will utilize NumPy and Pandas and will cover Matplotlib, Seaborn, and Scikit packages as well, which all commonly used in data science. By the end of the course, you will be able to do basic data science from a variety of data sources.

I adapted material from the first time I taught this course (Spring 2020). I improved the lectures and problem sets given feedback from the students in Spring 2020 and from my teaching assistant.



Data and Model Programming for Computational Social Science

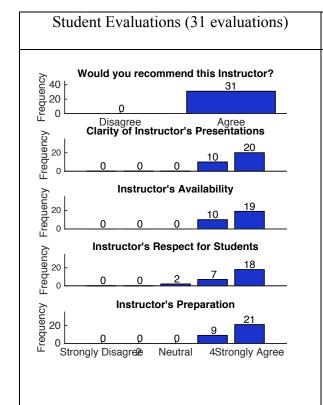
Instructor (42 students)

Spring Quarter 2020

University of California, San Diego

Course Description: This course explores the use of computational methods across the social sciences. Topics include thinking like a computational social scientist; research design for big data; legal and ethical dimensions of Computational Social Science (CSS). Students will implement demonstrations of these methods in Python through data visualization, selection, and modeling. At the end of the course you should have a good understanding of how to visualize, clean, and organize data for data analysis and modeling. Throughout the course, we will utilize NumPy and Pandas and will cover Matplotlib, Seaborn, and Scikit packages as well, which all commonly used in data science. By the end of the course, you will be able to do basic data science from a variety of data sources.

This is the second course in a new minor in Computational Social Sciences at UCSD. This was a brand new course. I designed all of the course materials and assessments and had to immediately adapt to remote instruction as a result of the Covid-19 pandemic closing campus only a couple weeks before the quarter began. I taught almost exclusively by coding on a shared screen using google colab so that students could program along with me to solve different computational problems. Lectures were given synchronously and then uploaded after class to accommodate students' schedules. Every week, students completed problem sets to solve real world data science problems using python.



Student Comments

- Thank you for being so understanding and all the flexibility/leniency in this class. This is one of the only class I've taken at UCSD that tries to teach us applicable skills. I really enjoyed this class!
- Professor Swan is one of the best professors I've had. It's clear he puts so much time into preparing lecture material for us, and he is extremely knowledgable about data science and the material he's teaching. He's kind, open to answering questions at any time, very accessible, and a great resource. He explains complex topics very well and knows that we as students have for the most part only had a quarter of coding experience. I hope he teaches CSS100.
- The professor was very knowledgeable, and even though this quarter was a weird and difficult situation he handled it well and tried to engage the students as well as accommodating coursework to fit the situation. He was very clear and had a good plan for what he was going to do each class, and I always left class feeling like I had learned something, and he was very open to questions and discussion which made the class feel welcoming despite being virtual.

• Oh man, what an absolutely incredible professor. If it wasn't
for him and the TA, I don't think I would of made it through
this course. He brings in guest speakers, takes the time to
answer all of the student's questions whether it would be
through text or voice, and is also very great at just making
things a little more interesting! Definitely recommend him and
wish I could have him for CSS 100!

Introduction to Cognition

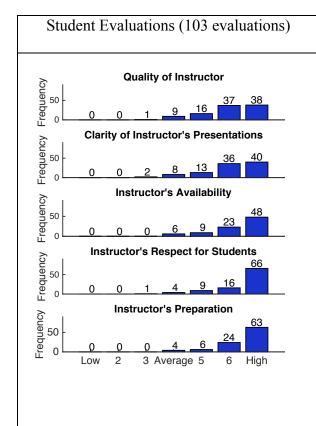
Instructor (139 students)

Spring Semester 2017

The Pennsylvania State University

Course Description: The purpose of this course is to provide a detailed understanding of the processes involved in human cognition. In other words, you'll be learning how the human mind works. You will probably find this to be a fascinating topic, as we will learn about how you see the world, remember events from your life, and make important decisions. We will also discuss higher level forms of cognition, such as reasoning, decision making, and even morality. Efforts to understand these concepts have been at the forefront of philosophy for millennia, and now that we have the scientific tools to study human thought, the answers we have been discovering are a fascinating revelation of our own selves. This course will change the way you view your own memories, actions, and decisions.

I adapted material from the first time I taught this course (Fall 2016). I improved the lectures by increasing the clarity of some of the sections. I also utilized Peerwise and IF-AT cards again to engage with students.



Student Comments

- It was very clear and I always knew what I was expected to learn. Garrett's explanations were clear and engaging. Thank you.
- The subject is incredibly interesting and Professor Swan always had a really positive attitude that made it easy and enjoyable to learn. Top quality jokes, A+.
- I expected this class to be really difficult, but Garrett was awesome in his explanations, the pace he went, and in the class organization. Everything built upon itself and it made a lot of sense. It would've been easy to get confused in this class, so Garrett helped us make sense of it all. It's clear that he has a ton of knowledge and passion for the subject which helps us as students learn the material. The Peerwise was also REALLY helpful because not only was it a chance for extra credit, but it was also helpful to go back and study.
- I enjoyed the lectures a lot, they were interesting and relevant and kept me focused.
- I liked how Professor Swan added activities to help us better understand the material. For example, he would include power point slides with experiments that focused on cognitive studies.

Introduction to Cognition

Instructor (71 students)

Fall Semester 2016

The Pennsylvania State University

Course Description: The purpose of this course is to provide a detailed understanding of the processes involved in human cognition. In other words, you'll be learning how the human mind works. You will probably find this to be a fascinating topic, as we will learn about how you see the world, remember events from your life, and make important decisions. We will also discuss higher level forms of cognition, such as reasoning, decision making, and even morality. Efforts to understand these concepts have been at the forefront of philosophy for millennia, and now that we have the scientific tools to study human thought, the answers we have been discovering are a fascinating revelation of our own selves. This course will change the way you view your own memories, actions, and decisions.

Material was instructed through lectures. In addition to the lectures, I utilized a couple of innovations to engage students and encourage learning. Peerwise is a website where students can upload their own multiple choice questions, answer questions generated by other students, and then provide feedback about those questions. By generating a question, a student must not only know the right answer, but also wrong answers. I also utilized Immediate Feedback Assessment Technique (IF-AT) cards. An individual card resembles a scratch-off card, with answer choices from A to E for 10 questions. The correct answer for each question corresponds to a star located underneath the scratch off material. Students really enjoy working as a team to answer the questions and some have even formed their own study group as a result of being paired together.

