

# Scripps Research Alcohol Center

## Neuroscience Course

JUNE 24 – JULY 26, 2024

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### SYLLABUS

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#### Course Goals

- Foster student passion in STEM and neurological sciences
- Explore the effects of alcohol and drugs on the brain
- Explore neurological health & disease
- Integrate social & biological science themes
- Prepare students for success in future science courses

**All classes will take place on Zoom:**

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#### Week 1

##### June 24

- Icebreaker Pre-course survey – Introduction to the course; being a scientist and the scientific method (Amanda)
- Break
- getting started with Canva - <https://www.canva.com/> (Monte)

##### June 25

- Health disparities in research & medicine; sex as a biological variable (Amanda)
- Break
- Reliable resources (Amanda)
- Introduce health disparity project (Monte)

##### June 28

- Introduction to neuroscience and brain development (Amanda)
- Break
- Work on health disparity project – cleaning up, editing, making it publication-ready (Monte)

## **Week 2**

### July 1

- Using animals to study the brain (Amanda)
- Break
- Neuroscience techniques (Amanda)
- Setting up a Tinkercad account (Sahithi)

### July 2

- Alcohol & substance use disorder (Amanda)
- Break
- Tinkercad tutorial – start working on design (Sahithi)

### July 5

- The brain's reward system
- Tinkercad work – design your own creation (Sahithi)

## **Week 3**

### July 8

- Ongoing work in the Scripps Alcohol Research Center
- Videos of science in action at Scripps (pre-recorded by Sahithi, Monte)
- Mouse party project using Canva (Monte)

### July 9

- Attention Deficit Disorder (ADHD) & AUD (Monte?)
- Mouse party project - cleaning up, editing, making it publication-ready (Monte)

### July 12

- Decision making & executive functioning (Amanda)
- Finish up any work from weeks 1-3

## **Week 4**

### July 15

- Sleep
- Break
- <https://www.scholastic.com/pathways/sleep/index.html>
- Decide on sleep disorder you'd like to research and start gathering information

### July 16

- Learning & memory, decision making & executive functioning  
Break
- Work on sleep disorder project in Canva

### July 19

- Mood disorders
- Sleep journal analysis and finish Canva projects

## **Week 5**

July 22

- Amanda's visit to Harvey Mudd.
- Mouse brain dissection

July 23

- Concussions, trauma, and brain injury

July 26

- The ARC Dissemination Core Presents: 1st Annual High School Intern Poster Session