

Syllabus for Neuroscience 2

Week 1: Review of the Basics – Neurons and Brain Structures

Lab: Build your own virtual brain

Week 2: The Neuroscience of Decision-Making

Lab: Creativity and Algorithms – new creations

Week 3: Biases and Heuristics – the Shortcuts

Lab: TBD

Week 4: The Moral Brain – How We Decide What is Right and Wrong

Lab: Moral Dilemma work

Week 5: Emotions: Brain Pathways of Fear, Anger and Happiness

Lab: Using somatic markers to understand preferences

Week 6: Vision and Perception – What Are Brain Wants to See

Lab – optical illusions part 2

Week 7: Sleep – Why Sleep Matters to the Brain

Lab: Measuring your own need for sleep

Week 8: Exercise – How Exercise Changes the Brain

Lab: Class experiment on exercise, relaxation, and brain function

Week 9: Pleasure and Pain – How Our Brain Experiences Both

Lab: TBD

Week 10: Addiction and the Brain- How We Become Addicted to Everything From Caffeine to the Internet

Lab: Neurotransmitters, and Addiction

Week 11: Hardwired for Social Behavior – Why Our Brain Needs Others

Lab: Brain mapping ostracism, loneliness and social pain

Week 12: Psychological Disorders and the Brain – Depression and Anxiety

Lab: TBD

Week 13: Psychological Disorders part 2 – Schizophrenia, Dissociative Disorders and Learning Disorders

Lab: Mapping learning disorders

Week 14: How Treatment for Psychological Disorders Effect the Brain

Lab: Are psychotropic drugs really a cure

Week 15: Presentation of Projects.