Course Content Information

I have supplemented my computer engineering degree with more than twenty electives in neuroscience-related biology, psychology, and mathematics courses. I have listed advanced neuroscience courses below, omitting introductory coursework which can be found in my transcript.

Course Name/Professor	Primary Textbook(s)/Topics
Computational Neuroscience	
PSY 633N: Neural Networks Prof. Greg Francis	Primary Literature unsupervised and supervised learning; backprop; ART
MA 490N: Computational Neuroscience Prof. Carl Cowen	Strogatz, "Nonlinear Dynamics and Chaos" Fall, "Computational Cell Biology" neuronal models; bifurcations; XPPAUT; diffeqs
ECE 570: Artificial Intelligence Prof. Jeffrey Siskind	Russell, "Artificial Intelligence: A Modern Approach" CSPs; alpha-beta; automated proof systems; Scheme
ECE 496: Research in Modern AI: Planning Prof. Robert Givan	Primary Literature Fast Forward; policy interpreters; planning; Scheme
ECE 496: Research in Autonomous Soccer Prof. Guilherme DeSouza	Course Notes digital design; software architecture; vision algorithms
ECE 301: Signals and Systems Prof. Michael Zoltowski	Oppenheim, "Signals and Systems" Fourier transforms (discrete and continuous); nyquist
Neurobiology	
BME 595T: Neural Systems Prof. Thomas Talavage	Primary Literature, Course Notes fMRI; EEG; Hodgkin-Huxley; emphasis on audition
BIOL 495N: Neurobiology Prof. Daniel Suteer	Martin, "From Neuron to Brain" glia; transmitters; ion channels; transport; APs
BIOL 420: Eukaryotic Cell Biology Prof. David Franklin	Scott, "Molecular Cell Biology" actin; transport; signals; organelles; cell cycle; mitosis
PSY 422: Genes and Behavior Prof. Edward Fox	Primary Literature; Sedivy, "Gene Targeting" transgenic/knockout mice; genetic basis of behavior
PSY 320: Psychobio of Sensation & Arousal Prof. Wasserman	Course Notes coding, feature extraction, feedback systems, arousal
PSY 310H: Sensation and Perception Prof. Robert Melara	Goldstein, "Sensation and Perception" emphasis on vision; peripheral nervous system
Mathematics	
STAT 511: Statistical Methods Prof. Tonglin Zhang	Devore, "Probability & Statistics" ANOVA; regression; hypothesis testing; point est.
IE 336: Stochastic Modeling Prof. James Solberg	Solberg, "Stochastic Modeling for Industrial Eng." Markov chains and Markov processes; distributions
ECE 302: Probabilistic Methods Prof. Venkataramanan Balakrishnan	Leon-Garcia, "Probability & Random Processes …" counting; random variables; processes; linear systems
MA 385: Mathematical Logic Prof. Tzuong-Tsieng Moh	Rubin, "Mathematical Logic" predicate logic; Gödel's theorem; induction; groups
ECE 369: Discrete Math Prof. Saurabh Bagchi	Gersting, "Mathematical Structures for CS" proofs; sets; relations; functions; algebraic structures
MA 301: Proof Through Real Analysis Prof. David Goldberg	Penney, "Intro to Proofs & Real Analysis" sequences; limits; series; convergence; cardinality