

Neuroengineering Focus Area –  
Upper-Level Engineering Courses – updated June, 2019  
For BME Class of 2021 and beyond

EN.520.315	Introduction to Bio-Inspired Processing of Audio-Visual Signals	3
EN.520.349	Microprocessor Lab I	3
EN.520.353	Control Systems	3
EN.520.372	Programmable Device Lab	3
EN.520.407	Introduction to the Physics of Electronic Devices	3
EN.520.412	Machine Learning for Signal Processing	3
EN.520.424	FPGA Synthesis Lab	3
EN.520.425	FPGA Senior Projects Laboratory	3
EN.520.435	Digital Signal Processing	3
EN.520.445	Audio Signal Processing	3
EN.520.448	Electronics Design Lab	3
EN.520.450	Advanced Micro-Processor Lab	3
EN.520.454	Control Systems Design	3
EN.520.465	Digital Communications I	3
EN.520.491	CAD Design of Digital VLSI Systems I	3
EN.520.492	Mixed-Mode VLSI Systems	3
EN.520.495	Microfabrication Lab	4
EN.530.414	Computer-Aided Design	3
EN.530.420	Robot Sensors/Actuators	4
EN.530.421	Mechatronics	3
EN.530.446	Experimental Methods in Biomechanics	3
EN.530.475	Locomotion I: Mechanics	3
EN.530.646	Robot Devices, Kinematics, Dynamics, and Control	3
EN.530.672	Biosensing & BioMEMS	3
EN.540.403	Colloids and Nanoparticles	3
EN.540.440	Micro/Nanotechnology: The Science and Eng. of Small Structures	3
EN.553.492	Mathematical Biology	3
EN.580.435	Applied Bioelectrical Engineering I	1.5
EN.580.436	Applied Bioelectrical Engineering II	1.5
EN.580.441	Cellular Engineering	3
EN.580.442	Tissue Engineering	3
EN.580.451	Cell and Tissue Engineering Lab	3
EN.580.456	Introduction to Rehabilitation Engineering	3
EN.580.457	Rehabilitation Engineering Design Lab	3
EN.580.471	Biomedical Instrumentation	4
EN.580.472	Medical Imaging Systems	3
EN.580.488	Foundations of Computational Biology & Bioinformatics II	3
EN.580.493	Imaging Instrumentation	4
EN.580.494	Build an Imager	3

EN.580.571	Honors Instrumentation	2
EN.580.625	Structure & Function of the Auditory and Vestibular Systems	3
EN.580.630	Theoretical Neuroscience	3
EN.580.688	Foundations of Computational Biology & Bioinformatics II	3
EN.601.455	Computer Integrated Surgery I	4
EN.601.456	Computer Integrated Surgery II	3
EN.601.475	Machine Learning	3

Contact the department advising office for course additions.

## 200-Level Engineering Courses

(maximum of 3 credits from this list may count in focus area)

EN.520.213	Circuits	4
EN.520.216	Introduction to VLSI	3
EN.520.214	Signals & Systems I	4
EN.520.230	Mastering Electronics	3

## Non-Upper Level Focus Area Courses

(maximum of 3 credits from this list may count in focus area)

AS.080.321	Computational Neuroscience	3
EN.580.112	BME Design Group	3
EN.580.211	BME Design Group	3
EN.580.212	BME Design Group	3
EN.580.237	Neuro Data Design I	3
EN.580.238	Neuro Data Design II	3
EN.580.311	BME Design Group	3
EN.580.312	BME Design Group	3
EN.580.411	BME Design Group	3
EN.580.412	BME Design Group	3
EN.580.580	Senior Design Project	3
EN.580.581	Senior Design Project	3

Students may use a maximum of 3 research credits as a non-upper-level engineering course.