

Course Number	Course Name	Biomedical Data Science	Imaging & Medical Devices	Computational Medicine	Immuno-engineering	Genomics & Systems Biology
510.311	Structure of Materials					
510.312	Thermodynamics/Materials					
510.313	Mechanical Properties of Materials					
510.314	Electronic Properties of Materials					
510.315	Physical Chemistry of Materials II					
510.316	Biomaterials I					
510.407	Biomaterials II: Host response and biomaterials					
510.415	The Chemistry of Materials Synthesis					
510.422	Micro and Nano Structured Materials & Devices					
510.426	Biomolecular Materials I- Soluble Proteins and					
510.430	Biomaterials Lab					
510.435	Mechanical Properties of Biomaterials					
510.436	Cell Engineering for Biomaterials					
510.442	Nanomaterials Lab					
510.443	Chemistry and Physics of Polymers					
510.453	Materials Characterization (previously 510.403)					
520.315	Intro to Bio-Inspired Processing of Audio-Visual Signals					
520.344	Digital Signal Processing					
520.349	Microprocessor Lab I					
520.353	Control Systems					
520.412	Machine Learning for Signal Processing					
520.414	Image Processing & Analysis I					
520.415	Image Processing & Analysis II					
520.418	Modern Convex Optimization					
520.420	Bioelectricity from Neurons to Semiconductors					
520.424	FPGA Synthesis Lab					
520.427	Design of Biomedical Instruments and Systems					
520.432	Medical Imaging Systems					

520.433	Medical Image Analysis					
520.439	Machine Learning for Medical Applications					
520.440	Machine Intelligence on Embedded Systems					
520.445	Audio Signal Processing					
520.447	Information Theory					
520.448	Electronics Design Laboratory					
520.450	Advanced Micro-Processor Lab					
520.453	Advanced ECE Engineering Design Team					
520.454	Control Systems Design					
520.483	Bio-Photonics Laboratory					
520.491	CAD Design of Digital VLSI Systems I					
520.492	Mixed-Mode VLSI Systems					
520.495	Microfabrication Laboratory					
520.601	Introduction to Linear Systems Theory					
520.631	Ultrasound and Photoacoustic Beamforming					
520.636	Feedback Control of Biological Signaling Pathways					
520.646	Wavelets & Filter Banks					
520.651	Random Signal Analysis					
530.327	Introduction to Fluid Mechanics					
530.381	Engineering Design Process					
530.343	Design & Analysis of Dynamical Systems					
530.410	Biomechanics of the Cell					
530.414	Computer-Aided Design					
530.420	Robot Sensors and Actuators					
530.421	Mechatronics					
530.424	Dynamics of Robots and Spaceflight					
530.430	Finite Element Analysis					
530.436	Bioinspired Science and Technology					
530.441	Biophotonics					
530.445	Introduction to Biomechanics					
530.448	Biosolid Mechanics					
530.468	Locomotion Mechanics: Fundamentals					
530.473	Molecular Spectroscopy and Imaging					

530.474	Effective & Economic Design for BME Instrumentation					
530.646	Robot Devices, Kinematics, Dynamics, and Control					
530.672	Biosensing & BioMEMS					
530.676	Locomotion in Mechanical and Biological Systems					
530.691	Haptic Interface Design for Human-Robot Interaction					
540.301	Kinetic Processes					
540.303	Transport Phenomena I					
540.304	Transport Phenomena II					
540.306	Chemical & Biomolecular Separations					
540.402	Metabolic Systems Biotechnology (also 540.602)					
540.403	Colloids and Nanoparticles					
540.409	Dynamic Modeling and Control					
540.414	Computational Protein Structure Prediction and Design					
540.421	Project in Design: Pharmacodynamics					
540.422	Introduction to Polymeric Materials					
540.432	Project in Design: Pharmacokinetics					
540.440	Micro/Nanotech: The Sci and Eng of Small Structures					
540.465	Engineering Principles of Drug Delivery					
553.361	Introduction to Optimization					
553.362	Optimization II					
553.371	Cryptology and Coding					
553.385	Scientific Computing: Linear Algebra					
553.391	Dynamical Systems					
553.400	Mathematical Modeling and Consulting					
553.401	Introduction to Research					
553.413	Applied Statistics and Data Analysis					
553.420	Introduction to Probability and 553.421					
553.426	Introduction to Stochastic Processes					
553.430	Introduction to Statistics					
553.433	Monte Carlo Methods					
553.436	Intro to Data Science					
553.450	Computational Molecular Medicine					
553.463	Network Models in Operations Research					

553.472	Graph Theory					
553.492	Mathematical Biology					
553.493	Mathematical Image Analysis					
553.630	Statistical Theory					
553.720	Probability Theory I					
553.721	Probability Theory II					
553.730	Statistical Theory I					
553.731	Statistical Theory II					
553.761	Nonlinear Optimization I					
553.762	Nonlinear Optimization II					
553.764	Modeling, Simulation, and Monte Carlo					
580.418	Principles of Pulmonary Physiology					
580.420	Immunomodulatory Biomaterials					
580.424	Neuroengineering and Lab: Neural Encoding					
580.425	Radiology for Engineers					
580.427	Microphysiological Systems and Laboratory					
580.428	Genomic Data Visualization					
580.430	Systems Pharmacology & Personalized Medicine					
580.431	Introduction to Computational Medicine: Imaging					
580.432	Genomic Systems Eng and Synthetic Biology					
580.433	Introduction to Computational Medicine: Physiome					
580.435	Applied Bioelectrical Engineering I					
580.437	Neuro Data Design I					
580.438	Neuro Data Design II					
580.439	Models of the Neuron					
580.441	Cellular Engineering					
580.442	Tissue Engineering					
580.444	Biomedical Applications of Glycoengineering					
580.447	Computational Stem Cell Biology					
580.448	Computational Genomics: Data Analysis					
580.452	Cell and Tissue Engineering Lab					
580.453	Immunoengineering Principles and Applications					
580.454	Methods in Nucleic Acid Sequencing					

580.456	Introduction to Rehabilitation Engineering					
580.458	Computing the Transcriptome					
580.460	Epigenetics at the Crossroads of Genes & the Env					
580.462	Representations of Choice					
580.464	Adv Data Science for Biomedical Engineering					
580.468	Practical Humann Neuroengineering					
580.471	Principles of Design of BME Instrumentation					
580.479	X-ray Imaging and Computed Tomography					
580.480	Precision Care Medicine I					
580.481	Precision Care Medicine II					
580.488	Foundations of Computational Biology & Bioinformatics					
580.491	Learning, Estimation and Control					
580.493	Imaging Instrumentation					
580.494	Build an Imager					
580.571	Honors Biomedical Instrumentation					
580.625	Structure and Function of the Auditory and Vestibular					
580.643	Advanced Orthopaedic Tissue Engineering					
580.646	Molecular Immunoengineering					
580.678	Biomedical Photonics					
580.689	Modern Optical Microscopy: Theory and Practice					
580.709	Sparse Reprs in Computer Vision and Machine Learning					
580.742	Neural Implants and Interfaces					
580.752	Adv Topics in Regenerative and Immune Engineering					
601.315	Databases (or 601.415)					
601.318	Operating Systems					
601.320	Parallel Programming					
601.350	Introduction to Genomic Research					
601.402	Digital Health and Biomedical Informatics					
601.433	Introduction to Algorithms					
601.434	Randomized and Big Data Analysis					
601.443	Security and Privacy Computing					
601.446	Sketching and Indexing for Sequences					
601.447	Computational Genomics: Sequences					

601.449	Computational Genomics: Applied Comp Genomics					
601.454	Augmented Reality					
601.455	Computer Integrated Surgery I					
601.456	Computer Integrated Surgery II (also 601.496)					
601.457	Computer Graphics					
601.461	Computer Vision					
601.463	Algorithms for Sensor-Based Robotics					
601.464	Artificial Intelligence					
601.465	Natural Language Processing					
601.466	Information Retrieval and Web Agents					
601.468	Machine Translation					
601.474	Machine Learning Theory					
601.475	Introduction to Machine Learning					
601.476	Machine Learning: Data to Models					
601.477	Casual Inference					
601.482	Machine Learning: Deep Learning					
601.491	Human-Robot Interaction					













