Course	Number	Units	Course Title	Prerequisites/Recommendations
AME	503	3	Advanced Mechanical Design	
AME	522	3	Nonlinear Dynamical Systems, Vibrations, and Chaos	
AME	524	3	Advanced Engineering Dynamics	Recommended Preparation: AME 521, AME 525.
AME	525	3	Engineering Analylsis	
AME	526	3	Engineering Analytical Methods	
AME	526			
AME	630	3	Transition to Chaos in Dynamical Systems	Recommended Preparation: AME 526.
BAEP	552	3	Cases in Feasibility Analysis	Corequisite: BAEP 549 or BAEP 550 or B AEP 551 or (GSBA 550a andGSBA 550b)
BAEP	554	3	Venture Initiation	BAEP 552 or BAEP 556 or BAEP 566
BAEP	556	3	Technology Feasibility	
BAEP	557	3	Technology Commercialization	
BAEP	559	3	Investing in New Ventures	
BAEP	561	1.5	Entrepreneurship in Innovative Industries: Life Sciences	
BISC	481	4	Structural Bioinformatics: From Atoms to Cells	
BISC	504	3	Laboratory Techniques in Cellular and Molecular Biology	
BISC	521	4	Hearing and Communication Neuroscience	BISC 421 and NSCI 524
BISC	542	1	Seminar in Molecular Biology	
BISC	576	2	Practical Statistics and Bioinformatics	
BISC	593	2	Practicum in Teaching the Biological Sciences	
BISC	502A	4	Molecular Genetics and Biochemistry	
BISC	502B	4	Molecular Genetics and Biochemistry	
BKN	551	4	Musculoskeletal and Biomechanical Basis of Movement	
BKN	552	4	Physiological Basis of Voluntary Movement	
CE	507	3	Mechanics of Solids I	
CE	546	3	Structural Mechanics of Composite Materials	
CHE	488	3	Molecular and Cellular Bioengineering	BISC 320
CHE	489	3	Biochemical Engineering	CHE 330, BISC 320L
CHE	460L	3	Chemical Process Dynamics and Control	Prerequisite: CHE 120; Corequisite: MATH 245
CHEM	519	4	Biochemistry and Molecular Biology: An Introduction for Chemists	
CSCI	455	4	Introduction to Programming Systems Design	Department approval
CSCI	503	3	N/A	
CSCI	526	4	Advanced Mobile Devices and Game Consoles	Recommended: CSCI420 or CSCI580
CSCI	542		Neural Computation with Artificial Neural Networks	

CSCI	544		Applied Natural Language Processing	
CSCI	545	4	Robotics	
CSCI	547	3	N/A	
CSCI	561	4	Foundations of Artificial Intelligence	
CSCI	564	3	Brain Theory and Artificial Intelligence	
CSCI	567	4	Machine Learning	
CSCI	570		Analysis of Algorithms	
CSCI	571	4	Web Technologies	
CSCI	572	4	Information Retrieval and Web Search Engines	
CSCI	573	3	Probabilistic Reasoning	
CSCI	574	3	Computer Vision	
CSCI	578	3	Software Architectures	
CSCI	580	3	3-D Graphics and Rendering	
CSCI	585	4	Database Systems	Recommended Preparation: Knowledge of relational databases, SQL, relational algebra and physical database design is required
CSCI	596	3	Scientific Computing and Visualization	Recommended Prep: CSCI 455x and MATH 458
CSCI	670	4	Advanced Analysis of Algorithms	CSCI 570
CSCI	677	4	Advanced Computer Vision	
CSCI	698	1	Practicum in Teaching Computer Science	
CSCI	577A	4	Software Engineering	graduate standing
DSO	528	3	Data Warehousing, Business Intelligence, and Data Mining	
ECON	636	4	Health Economics I	Recommended Prep: ECON 601 and ECON 611
EE	450	3	Introduction to Computer Networks	
EE	480	3	Introduction to Nanoscience and Nanotechnology	EE 338
EE	482	3	Linear Control Systems	EE 301 or graduate standing
EE	483	3	Introduction to Digital Signal Processing	EE 301
EE	503	4	Probability for Electrical and Computer Engineers	
EE	504	3	Solid-State Processing and Integrated Circuits Laboratory	
EE	507	3	Micro- and Nano-Fabrication Technology	
EE	508	3	Nano-Fabrication Lithography	
EE	509	3	Electromagnetics for Semiconductor Photonics	
EE	510	4	Linear Algebra for Engineering	Recommended Prep: EE 141L and MATH 445
EE	511	1	Simulation Methods for Stochastic Systems	Corequisite: EE 503
EE	519	3	Speech Recognition and Processing for Multimedia	EE 483
EE	529	3	Optics	Recommended Prep: EE 470
EE	532	3	Wireless Internet and Pervasive Computing	EE 450, Recommended: EE 457

EE	535	3	Mobile Communication	EE 503
EE	537	3	Modern Solid-State Devices	EE 338
EE	544	3	Radio Frequency System Hardware	EE 301, EE 348, EE 364
EE	552	3	Asynchronous VLSI Design	EE 477
EE	559	3	Mathematical Pattern Recognition	Corequisite: EE 441, EE 503
EE	563	3	Estimation Theory	EE 503
EE	566	3	Optical Information Processing	EE 401, Recommended: EE 301L
EE	569	4	Introduction to Digital Image Processing	Recommended: EE 503
EE	569	4	Introduction to Digital Image Processing	Recommended: EE 503, C/C++ or MATLAB
EE	583	3	Statistical Signal Processing	EE 503
EE	585	3	Linear System Theory	EE 441
EE	587	3	Nonlinear and Adaptive Control	EE 482, EE 585
EE	591	3	Magnetic Resonance Imaging and Reconstruction	EE 483; Recommended: EE 441 and EE503. Familiarity with MATLAB
EE	592	3	Computational Methods for Inverse Problems	EE483 and EE441
EE	597	3	Wireless Networks	EE450 and EE503
EE	598	1	Electrical Engineering Research Seminar	
EE	607	3	Microelectromechanical Systems	
EE	642	3	Advanced Geometrical Optics	EE529
EE	660	3	Machine Learning From Symbols: Foundations and Methods	EE441 and EE503; Recommended: EE559 or CSCI567
EE	536A	4	Mixed-Signal Integrated Circuit Design	EE448 or EE479
EE	543A	3	Digital Control Systems	EE482
EE	562A	3	Random Processes in Engineering	EE441 and EE503
EE	562A	3	Random Processes in Engineering	EE441 and EE503
EE	565A	3	Information Theory and Compression	EE503
EE	577A	3	VLSI System Design	EE477
EE	577B	3	VLSI System Design	EE477
FBE	529	3	Financial Analysis and Valuation	GSBA 521B or GSBA 548
GERO	530	4	Life Span Developmental Sociology	
GERO	600	4	Geroscience: Molecular and Cellular Biology	
GERO	602	2	Seminar on Discoveries in Biogerontology	
GSBA	520	3	Business Fundamentals for Non-Business Professionals	
IML	543	4	Transdisciplinary Media Design Practicum	Recommended: CTIN 503 and CTIN 541
INF	510	3	Principles of Programming for Informatics	
INF	549	4	Introduction to Computational Thinking and Data Science	Recommended: Mathematics and logic undergraduate courses
INF	550	4	Overview of Data Informatics in Large Data Environments	
INF	552	4	Machine Learning for Data Informatics	
INF	554	4	Information Visualization	
INTD	531	4	Cell Biology	

ISE	500	3	Statistics for Engineering Managers	
ISE	515	3	Engineering Project Management	
ISE	525	3	Design of Experiments	Recommended: ISE225
ISE	527	3	Quality Management for Engineers	
ISE	544	3	Management of Engineering Teams	
ISE	545	3	Technology Development and Implementation	
ISE	555	3	Invention and Technology Development	
ISE	610	3	Advance Design of Experiments and Quality Engineering	Recommended: undergrad course in engineering statistic, including distributions, confidence intervals, ANOVA and regression
MASC	505	3	Crystals and Anisotropy	
MASC	524	3	Techniques and Mechanisms in Electrochemistry	
MASC	534	3	Materials Characterization	
MASC	551	3	Mechanical Behavior of Engineering Materials	Recommended: MASC310
MASC	560	3	Fatigue and Fracture	cross-listed as AME 560
MASC	575	3	Basics of Atomistic Simulation of Materials	
MASC	583	3	Materials Selection	
MATH	501	3	Numerical Analysis and Computation	
MATH	530A	3	Stochastic Calculus and Mathematical Finance	Recommended: MATH225 and MATH407
MEDS	500	4	Basic Concepts in Global Health	
MEDS	525	2	Global Mental Health	
MEDS	527	2	Zoonotic Infectious Diseases	Recommended: MEDS 500
MEDS	528	2	Global Health Modules, Sexually Transmitted Infections	
MEDS	529	2	Refugee Health Care	
MEDS	531	2	The Politics of Global Health	
MEDS	535	2	Culture, Lifestyle, and Health	
MEDS	530A	4	Foundation of Medicine: Anatomy, Physiology, and Pathology	
MEDS	530B	4	Foundation of Medicine: Anatomy, Physiology, and Pathology	
MKT	530	3	New Product Development	
MOR	564	3	Strategin Innovation: Creating New Markets	
MOR	569	3	Negotiation and Deal-Making	
MOR	571	3	Leadership and Executive Development	
MPKS	501	1	Individual Instruction	
MPKS	501	2	Individual Instruction	
MPTX	511	3	Introduction to Medical Product Regulation	
MPTX	512	3	Regulation of Pharmaceutical and Biological Products	
MPTX	513	3	Regulation of Medical Devices and Diagnostics	
MPTX	515	3	Quality Systems and Standards	
MPTX	516	3	Medical Products and the Law	

MPTX	517	4	Structure and Management of Clinical Trials	
MPTX	521	1	n/a	
MPTX	630	6	Directed Field-Research Project	
NIIN	550	3	Computational Modeling in Neuroimaging	
NIIN	598	1	Neuroimaging and Informatics External Speaker Seminar Series	
NSCI	524	4	Advanced Overview of Neurosciences	BISC 421
NSCI	525	4	Advanced Overview of Neurosciences II	BISC 421
PM	510	4	Principles of Biostatistics	
PM	513	3	Experimental Designs	PM 510L
PM	544	3	Multivariate Analysis	PM 510, PM 522a
PM	565	4	Introduction to Global Health	
PSYC	501	4	Statistics in Psychological Research	
PSYC	502	4	Analysis of Variance and Experimental Design	PSYC 501
PSYC	555	4	Introduction to Functional Magnetic Resonance Imaging	
RSCI	508	3	Quality Assurance for Drugs and Biologics	
RSCI	509	3	Quality Assurance, Medical Devices and Combination Products	
RSCI	527	3	Medical Produc Safety	
RSCI	601	4	Biomedical Commerce	
RXRS	416	4	Medical Products: From Idea to Market	valid substitution for BME 416
SAE	549	3	Systems Architecting	BS degree in a related field of engineering