Engineering Fundamentals: Healthcare Informatics & Technology:

Use this list of engineering courses to fulfill your engineering fundamentals within this track. Courses are chosen with the assistance of the student's advisor, with final approval by the Graduate Committee.

Required Engineering *(1 of the following):*

- ISYE 6414: Regression Analysis
- BMED 6700: Biostatistics (if not available, then ISYE 6420)
- MATH 6267: Multivariate Statistical Analysis
- BMED 6XXX: Machine Learning in Biomedicine
- CSE/ISYE 6740: Computational Data Analysis
- BIOL 7023: Bioinformatics

Other recommended engineering *(any of the above courses or those listed below):*

- BIOL 8802: Computational Systems Biology
- BIOL 8803: Computational Genomics
- BMED 6780: Medical Image Processing
- BMED 6786: Medical Imaging Systems
- BMED 7411: Mathematical Models in Biology & Medicine
- BMED 7413: Biochemical Systems Analysis
- BMED 7412: Analysis & Modeling of Complex Biological Systems
- BMED 8823: Bioinformatics
- CS 6230: High Performance Parallel Computing
- CS 6505: Computability & Algorithms
- CS 6520: Computational Complexity
- CS 6550: Design & Analysis of Algorithms
- CS 6750: Human Computer Interaction
- CS 7450: Information Visualization
- CS 7545: Machine Learning Theory
- CS 7641: Machine Learning
- CS 7645: Numerical Machine Learning
- CSE 6040: Computing for Data Analysis
- CSE 6140: Computational Science & Engineering Algorithms
- CSE 6230: High Performance Parallel Computing
- CSE 6242: Data & Visual Analytics
- CSE 6243: Advanced Top Machine Learning
- CSE 6301: Algorithm Bioinformatics & Computational Biology
- CSE 6730: Modeling & Simulation: Fundamentals & Implementation
- CSE 6740: Computational Data Analysis
- ECE 6250: Signal Processing
- ECE 6121: Combinatorial Strategies
- ECE 6250: Advanced Digital Signal Processing
- ECE 6254: Stat Digit Sig Proc & Mod
- ECE 6258: Digital Image Processing
- ECE 6260: Data Compression & Modeling

- ECE 6271: Adaptive Filtering
- ECE 6500: Fourier Tech & Signal Analysis
- ECE 6552: Nonlinear Systems
- ECE 6553: Optimal Control
- ECE 6554: Adaptive Control
- ECE 6556: Intelligent Control
- ECE 6558: Stochastic Systems
- ECE 6559: Advanced Linear Systems
- ECE 6601: Random Processes
- ECE 6605: Information Theory
- ECE 6730: Model & Sim: Found & Implementation
- ECE 7251: Detection & Estimation
- ECE 7252: Advanced Signal Processing Theory
- HS 6000: Healthcare Delivery
- HS 6100: Healthcare Delivery Models
- HS 6300: Healthcare Information Systems
- HS 6400: Health Systems Practice
- ISYE 6401: Stat Models & Dsgn Expts
- ISYE 6402: Time Series Analysis
- ISYE 6404: Nonparametric Data Analysis
- ISYE 6414: Regression Analysis
- ISYE 6416: Computational Statistics
- ISYE 6644: Simulation
- ISYE 6650: Probabilistic Models
- ISYE 6739: Statistical Methods
- MATH 6266: Linear Statistical Models
- MATH 6267: Multivariate Statistical Analysis
- MATH 6640: Numerical Methods: Partial Differential Equations
- MATH 6643: Numerical Methods: Linear Algebra
- MATH 6644: Iterative Methods-Systems of Equations
- MATH 6646: Numerical Methods: Ordinary Differential Equations
- MATH 6647: Numerical Methods for Dynamical Systems
- MATH 6705: Modeling & Dynamics
- MATH 6761: Stochastic Processes I
- MATH 6762: Stochastic Processes II