

SEAS MSEBE MATH COURSE (EMBM)

Code	Title	Course Units
AMCS 5141	Advanced Linear Algebra	1
AMCS 5840	The Mathematics of Medical Imaging and Measurement	1
BBCB 5320	Computational Biophysics	1
BE 5040	Biological Data Science II: Data Mining Principles for Epigenomics	1
BE 5100	Biomechanics and Biotransport	1
BE 5160	Introduction to High-Performance Scientific Computing	1
BE 5180	Optical Microscopy	1
BE 5300	Theoretical and Computational Neuroscience	1
BE 5320	Computational Biophysics	1
BE 5370	Biomedical Image Analysis	1
BE 5400	Principles of Molecular and Cellular Bioengineering	1
BE 5440	Computational Science of Energy and Chemical Transformations	1
BE 5500	Continuum Tissue Mechanics	1
BE 5550	Nanoscale Systems Biology	1
BE 5570	Quantitative Principles of Drug Design	1
BE 5590	Multiscale Modeling of Chemical and Biological Systems	1
BE 5660	Networked Neuroscience	1
BE 5840	The Mathematics of Medical Imaging and Measurement	1
BIOL 5510	Statistics for Biologists	1
BIOL 5511	Biological Data Analysis	1
BIOL 5535	Introduction to Computational Biology & Biological Modeling	1
BIOL 5536	Fundamentals of Computational Biology	1
BIOL 5860	Mathematical Modeling in Biology	1
BMIN 5020	Database and Data Integration in Biomedical Research	1
BMIN 5030	Data Science for Biomedical Informatics	1
BMIN 5330	Statistics for Genomics and Biomedical Informatics	1
BSTA 5500	Applied Regression and Analysis of Variance	1
BSTA 6200	Probability I	1
BSTA 6210	Statistical Inference I	1
BSTA 6220	Statistical Inference II	1
BSTA 6300	Statistical Methods and Data Analysis I	1
BSTA 6510	Linear Models	1
BSTA 7510	Statistical Methods for Neuroimaging	1
CBE 5060	Introduction to High-Performance Scientific Computing	1
CBE 5080	Probability and Statistics for Biotechnology	1
CBE 5220	Polymer Rheology and Processing	1
CBE 5250	Molecular Modeling and Simulations	1
CBE 5400	Principles of Molecular and Cellular Bioengineering	1
CBE 5440	Computational Science of Energy and Chemical Transformations	1
CBE 5550	Nanoscale Systems Biology	1
CBE 5590	Multiscale Modeling of Chemical and Biological Systems	1
CHEM 5210	Statistical Mechanics I	1
CIS 5150	Fundamentals of Linear Algebra and Optimization	1
CIS 5190	Applied Machine Learning	1
CIS 5200	Machine Learning	1
CIS 5360	Fundamentals of Computational Biology	1
CIS 5370	Biomedical Image Analysis	1
CIS 5450	Big Data Analytics	1
ENM 5020	Numerical Methods and Modeling	1
ENM 5030	Introduction to Probability and Statistics	1
ENM 5100	Foundations of Engineering Mathematics - I	1
ENM 5110	Foundations of Engineering Mathematics - II	1
ENM 5200	Principles and Techniques of Applied Math I	1
ENM 5210	Principles and Techniques of Applied Math II	1
ENM 5320	Physical structure-preservation & advanced computational techniques for scientific machine learning	1
EPID 6000	Data Science for Biomedical Informatics	1
ESE 5000	Linear Systems Theory	1
ESE 5050	Feedback Control Design and Analysis	1
ESE 5060	Introduction to Optimization Theory	1
ESE 5300	Elements of Probability Theory	1
ESE 5310	Digital Signal Processing	1
ESE 5420	Statistics for Data Science	1
ESE 5660	Networked Neuroscience	1
ESE 6740	Information Theory	1
GCB 5330	Statistics for Genomics and Biomedical Informatics	1
GCB 5360	Fundamentals of Computational Biology	1
GCB 5370	Advanced Computational Biology	1
IMUN 5770	Statistics for Genomics and Biomedical Informatics	1
MATH 5020	Abstract Algebra	1
MATH 5140	Advanced Linear Algebra	1
MATH 5840	The Mathematics of Medical Imaging and Measurement	1
MATH 5861	Mathematical Modeling in Biology	1
MEAM 5130	Feedback Control Design and Analysis	1
MEAM 5270	Finite Element Analysis	1
MEAM 5550	Nanoscale Systems Biology	1
MKTG 7760	Applied Probability Models in Marketing	1

MPHY 6090	Biomedical Image Analysis	1
MSE 5150	Mathematical Methods for Engineering Applications	1
MSE 5440	Computational Science of Energy and Chemical Transformations	1
NGG 5940	Theoretical and Computational Neuroscience	1
NRSC 5585	Theoretical and Computational Neuroscience	1
OIDD 5810	Convex Optimization for Statistics and Data Science	1
PHYS 5585	Theoretical and Computational Neuroscience	1
PSYC 5390	Theoretical and Computational Neuroscience	1
PSYC 6110	Applied Regression and Analysis of Variance	1
PSYC 6120	Introduction to Nonparametric Methods and Log-linear Models	1
SCMP 5590	Multiscale Modeling of Chemical and Biological Systems	1
STAT 5000	Applied Regression and Analysis of Variance	1
STAT 5010	Introduction to Nonparametric Methods and Log-linear Models	1
STAT 5030	Data Analytics and Statistical Computing	1
STAT 5100	Probability	1
STAT 5110	Statistical Inference	1
STAT 5120	Mathematical Statistics	1
STAT 5420	Bayesian Methods and Computation	1
STAT 5710	Modern Data Mining	1
STAT 5810	Convex Optimization for Statistics and Data Science	1
STAT 5850	Foundations of Deep Learning with Applications	1
STAT 7700	Data Analytics and Statistical Computing	1
STAT 7760	Applied Probability Models in Marketing	1
STAT 9800	Introductory to Biomedical Data Science Research	1