

Area 1 - Biomedical Informatics Foundations and Applications - 12 hours				
Research Foundations - Choose 1				
	3 CLEM	HLTH 8210	Health Research 1: Design and Measurement	
Biomedical Informatics Foundations - Both				
	3 MUSC	BDSI 8010	Intro to Biomedical Informatics	
	3 MUSC	BDSI 8020	Biomedical Data Standards and Terminologies	
Track Specific Course - Choose 1				
	3 MUSC	BDSI 8110	Precision Medicine Informatics	
	3 MUSC	BDSI 8120	Clinical and Translational Informatics	
	3 MUSC	CPSC 8810	Clinical Natural Language Processing	
	3 CLEM	HLTH 8600	Clinical Decision Support Systems	
	3 CLEM	HLTH 8900	Population Health Informatics	

Area 2 – Computing, Math, Stats, and Engineering - 12 hours				
Systems and Data Base Management - Choose 1				
	3 CLEM	CPSC 8700	Software Design	Applied Software Engineering
	3 CLEM	CPSC 8710	Foundations of Software Engineering	Engineering
	3 CLEM	CPSC 6550	Computational Science: Methods & Software Systems	Computing
	3 CLEM	CPSC 8200	Parallel Architectures	Environments
	3 CLEM	CPSC 8490	Principles of Scientific Computing	
	3 CLEM	ECE 6730	Introduction to Parallel Systems	
	3 CLEM	ECE 6780	General Purpose Computation on GPUs	
	3 CLEM	ECE 8780	High-Performance Computing with GPUs	
	3 CLEM	CPSC 6620	Database Management System	Data Management
	3 CLEM	CPSC 8470	Introduction to Information Retrieval	Tools and Technology
	3 CLEM	CPSC 8620	Database Management System Design	
	3 CLEM	CPSC 6140	Human and Computer Interaction	Human Factors/
	3 CLEM	HCC 8310	Fundamentals of Human-Centered Computing	HCI/Usability
	3 CLEM	IE 6880	Human Factors Engineering	
	3 CLEM	IE 8000	Human Factors Engineering	

Area 2 (continued) – Computing, Math, Stats, and Engineering - 12 hours				
Math - Choose 1				
	3 CLEM	MATH 8050	Applied Statistical Models I	
	3 CLEM	STAT 8010	Statistical Methods	
Machine Learning/Data Science - Choose 1				
	3 CLEM	CPSC 6300	Applied Data Science	
	3 CLEM	CPSC 6420	Artificial Intelligence	
	3 CLEM	CPSC 6430	Machine Learning: Implementation and Evaluation	
	3 CLEM	CPSC 8420	Advanced Machine Learning	
Other - Choose 1				
	3 CLEM	CPSC 8380	Advanced Data Structure	Algorithms and Data Structures
	3 CLEM	CPSC 8400	Design & Analysis of Algorithms	
	3 CLEM	HLTH 8310	Quantitative Analysis in Health Research I	Biostatistics
	3 CLEM	STAT 6020	Introduction to Statistical Computing	
	3 CLEM	STAT 8190	Biostatistics	
	3 CLEM	CPSC 8480	Network Science	Data Mining
	3 CLEM	CPSC 8650	Data Mining	
	3 CLEM	ECE 8560	Pattern Recognition	
	3 CLEM	MATH 8070	Applied Multivariate Statistical Analysis	
	3 CLEM	ECE 6420	Knowledge Engineering	Decision Analysis/ Knowledge Integration/ Modeling
	3 CLEM	IE 8030	Engineering Optimization and Applications	
	3 CLEM	MATH 6410	Introduction to Stochastic Models	
	3 CLEM	PADM 8420	GIS for Public Administrators	Geospatial Analysis
	3 CLEM	BIOE 6310/11	Medical Imaging	Image and Signal Processing
	3 CLEM	ECE 6310	Introduction to Computer Vision	
	3 CLEM	ECE 6670	Introduction to Digital Signal Processing	
	3 CLEM	ECE 8470	Digital Image Processing	
	3 CLEM	CPSC 6030	Data Visualization	Visualization and Exploratory Data Analysis
	3 CLEM	CPSC 8030	Scientific Visualization	
	3 CLEM	CPSC 8430	Deep Learning	

Area 3 - Population Health, Health Systems, and Policy - 5-6 hours				
Choose 2				
	3 CLEM	HLTH 8100	Health Policy	Health Policy
	3 CLEM	HLTH 8020	Health Economics	Health Systems
	3 CLEM	HLTH 8110	Health Care Delivery Systems	
	3 CLEM	HLTH 8090	Epidemiology	Population Health
	2 CLEM	HLTH 8130	Population Health and Research	
	3 CLEM	HLTH 8600	Clinical Decision Support Systems	
	2 CLEM	HLTH 8140	Health Systems Quality Improvement	Quality and Safety

Area 4 - Domain Biology/Medicine - 3-4 hours				
Choose 1				
	3 CLEM	BCHM 6360	Molecular Biology: Genes to Proteins	Biochemistry and Pathology
	3 CLEM	BCHM 6430	Molecular Basis for Disease	
	3 CLEM	BCHM 8140	Advanced Biochemistry	
	3 CLEM	BIOE 8460	Biomedical Basis for Engineered Replacement	Foundations of Biomedical Science
	3 CLEM	BIOL 8000	Concepts in Evolution, Ecology and Organismal Biology	
	3 CLEM	BIOL 8010	Concepts in Molecular, Cellular and Dev. Bio	
	3 CLEM	GEN 6400	Bioinformatics	
	3 CLEM	MICRO 8130	Practical Bioinformatics for Microbiologists	
	3 CLEM	PHYS 8190	Computational Biophysics	
	3 CLEM	GEN 6050	Molecular Genetics of Eukaryotes	Genetics
	3 CLEM	GEN 6100	Population & Quantitative Genetics	
	3 CLEM	GEN 6200	Molecular Genetics and Gene Regulation	
	3 CLEM	GEN 6700	Human Genetics	
	3 CLEM	GEN 8140	Advanced Genetics	
	3 CLEM	GEN 8500	Introduction to Quantitative Genetics	
	3 CLEM	MATH 9810	Statistical Genetics	
	3 CLEM	BIOL 6030	Introduction to Applied Genomics	Genomics
	3 CLEM	CHE 8450	Systems Biology and Pharmacology	
	3 CLEM	GEN 8060	Molecular Diagnostics and Pathogen Genomics	
	3 CLEM	GEN 8200	Genomics and Proteomics	
	3 CLEM	GEN 8450	Advanced Medical Bioinformatics	
	3 CLEM	GEN 8900	Regulatory Genomics	
	3 CLEM	HCG 9150	Principles of Pharmacogenomics	

Area 5 - Seminars				
Recommended for MS students				
	1	BDSI 8000	Seminar	
	1	BDSI 8000	Seminar	
	1	BDSI 8000	Seminar	
	1	BDSI 8000	Seminar	

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