Curriculum for the Big Data Biostatistics Track

Core courses for BIG DATA BIOSTATISTICS track (90 cr hr required for PhD degree)

Course	Course #	Credit hours	Offered
Environmental Health Seminar	ENV7001/7002	2 hr req	Fall/Spring
Epidemiology and Biostatistics Seminar	BE8028/8029	2 hr req	Fall/Spring
Introduction to Biostatistics (*)	BE7022	3	Fall
Introduction to Epidemiology (*)	BE7076	2	Fall
Design & Analysis of Algorithms (**)	CS4071	3	
Introduction to Functional Genomics	GNTD8001C	3	Fall
Introduction to Bioinformatics	CS7099	3	Spring
Databases (**)	ECEE6010	3	Spring
Regression Analysis	BE7088	3	Spring
Experimental Design	BE7089	3	Fall (even years)
Mathematical Statistics I	STAT6021	3	Fall
Mathematical Statistics II	STAT6022	3	Spring
Linear Models and Multivariate Analysis I	STAT7021	4	Fall
Linear Models and Multivariate Analysis II	STAT7022	4	Spring
Data Analysis with R	BE7072	2	
Biostatistics and Epidemiology Consultation BIG DATA Consultation	BE8004/8005	1 hr required	Fall/Spring
BIG DATA electives		Total of 9 hrs	
Scientific Integrity <u>or</u> Ethics in Research	BE7067 GNTD7003	1 1	 Spring
Research	ENV8091	Varies	Fall/Spring/Summer
Dissertation Research	ENV9091	7	Fall/Spring/Summer
Electives (to bring to 90 cr hr)		9	

BIG DATA electives

Categorical Data Analysis (BE7097)/ Biostatistics in Research (BE7061)
Artificial Intelligence I (CS6033)
Machine Learning (CS6037)
Computational System Biology (MCP6031C)
Digital Image Processing (EECE6042)
Intelligent Data Analysis (CS6052)
Cloud Computing (CS6065)
Advanced Algorithms (CS7081)
Pattern recognition (CS8021)
Data Warehouse Design (EECE8075)
Analysis of Large-scale Health Data (BE7080)
Introduction to Medical Informatics (BE8062)
Advanced Statistical Methods in Biomedical Research (BE8064C)
Computational Statistics (BE7024)
Advanced Topics in Machine Learning (CS7036)
Survey of Toxicology (TOX7082)
Introduction to SAS Programming (BE7078)
Statistical Genetics (BE-7064)
Introduction to Data Science (BE-7082)
Applied Survival Analysis (BE-7090)