B.S. in Statistics – Statistical Data Science Track (Effective Fall 2020)

This track emphasizes data handling skills and statistical computation. It is recommended for students interested in statistical learning methodology, advanced data handling techniques and computational aspects of statistical analysis.

Preparatory Subject Matter (27 units)

- MAT 21A Calculus (4)
- MAT 21B Calculus (4)
- MAT 21C Calculus (4)
- MAT 21D Vector Analysis (4)
- MAT 22A Linear Algebra (3)
- ECS 32A or 36A Programming (4)
  (Note: Additional coursework in Python is strongly recommended (e.g. ECS 32B))
- STA 13 or 32 or 100 Statistics (32 or 100 preferred) (4)

Depth Subject Matter (52 units)

- STA 106 Analysis of Variance (4)
- STA 108 Regression Analysis (4)
- STA 131A Intro to Probability Theory or STA 130A Mathematical Statistics: Brief Course (4)
- STA 131B Intro to Mathematical Statistics or STA 130B Mathematical Statistics: Brief Course (4)
- STA 135 Multivariate Data Analysis (4)
- STA 141A Fundamentals of Statistical Data Science (4)
- STA 141B Data & Web Technologies for Data Analysis (4)
- STA 141C Big Data & High Performance Statistical Computing (4)
- STA 142A Statistical Learning I or ECS 171 Machine Learning (4)
- STA 160 Practice in Statistical Data Science (4)
- MAT 167 Applied Linear Algebra or MAT 168 Optimization (4)

Two courses from:

- STA 104 Nonparametric Statistics (4)
- STA 137 Applied Time Series Analysis (4)
- STA 138 Analysis of Categorical Data (4)
- STA 142A Statistical Learning I (4)
- STA 142B Statistical Learning II (4)
- STA 144 Sampling Theory of Surveys (4)
- STA 145 Bayesian Statistical Inference (4)
- MAT 128A Numerical Analysis (4)
- MAT 160 Mathematics for Data Analytics and Decision Making (4)
- ECS 122A Algorithm Design and Analysis (4)
- ECS 158 Programming and Parallel Architectures (4)
- ECS 163 Information Interfaces (4)
- ECS 165A Database Systems (4)
- One approved 4 unit course from STA 199, 194HA, or 194HB (4)

Note: A course used to fulfill the core requirement cannot be used as an elective.