MATH STATISTICS (MS)

MS 104 - Introduction to Statistics
Credits: 4
An introduction to fundamental concepts in statistical reasoning. Students will consider contexts, both historical and modern, in which statistical approaches arose and methodologies developed. Topics considered will include organization and analysis of data, the drawing of inferences from these data, and the careful presentation of these inferences. Examples will be drawn from a variety of disciplines.
Prerequisites: *Placement at the AQR level or completion of an FQR course or QR1.*
Note(s): Students who have received credit for SO 226 or EC 237 may not receive credit for MS 104. Fulfills QR2 requirement; fulfills Applied QR requirement.

MS 204 - Statistical Methods
Credits: 4
An introduction to statistical methods. Students will learn sampling strategies, exploratory data analysis, hypothesis testing, and randomization-based strategies, with examples from a variety of disciplines. This course is designed for majors in STEM fields and/or those with strong quantitative skills.
Prerequisites: *Placement at the AQR level or completion of an FQR course or QR1.*
Note(s): This course is not open to those who have taken MS 104. Fulfills QR2 requirement; fulfills Applied QR requirement. Three hours of lecture and two hours of lab per week.

MS 210 - Data Visualization
Credits: 3
An introduction to data visualization. Students will learn to use data visualization tools, to objectively critique and redesign graphics, and to produce and describe visualizations using the R/RStudio statistical software. A willingness to code is needed. (Fulfills QR2 requirement).

MS 240 - Applied Regression Analysis
Credits: 4
A continuation of introductory statistics, this course is intended for students in the physical, social, or behavioral sciences. Topics include multiple linear regression, indicator variables, model diagnostics, transformations and selection strategies, logistic and multiple logistic regression, and analysis of variance. Emphasis will be on applying tools to real data as well as the interpretation of results. The class will make extensive use of the R/RStudio statistical software, which is free to download and use.
Prerequisites: *MS 104 or the equivalent.*
Note(s): Fulfills QR2 requirement.

MS 251 - Topics in Statistics
Credits: 1-4
Topics that complement the established lower level course offerings in statistics will be selected. Emphasis will be on the nature of statistical thought.
Prerequisites: *Will vary with course.*

MS 275H - Research Topics in Statistics
Credits: 1
Exploration of a research topic in statistics. The students, in collaboration with a faculty mentor, will participate in a research project in a particular area of statistics which may be related to the faculty member's research program.

MS 351 - Topics in Statistics
Credits: 1-4
Topics that complement the established upper-level course offerings in statistics.
Prerequisites: *MS 204 or equivalent. Additional prerequisites vary with topic and instructor.*

MS 371 - Independent Study
Credits: 1-4
Special study in statistics outside the regular department offerings.