

# Mathematics (MATH)

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## Courses

### **MATH 555. Applied Mathematical Optimization. 3 Credits.**

Analytical and numerical optimization techniques; linear, nonlinear, integer, and dynamic programming. Techniques applied to problems of water, forest, air and solid-waste management.

P: gr st.

Fall Even.

### **MATH 630. Design of Experiments. 4 Credits.**

Statistical theory and practice underlying the design of scientific experiments, and methods of analysis. Replication, randomization, error, linear models, least squares, crossed and nested models, blocking, factorial experiments, Latin squares, confounding, incomplete blocks, split-plots.

P: gr st and intro stats cse.

Spring.

### **MATH 631. Multivariate Statistical Analysis. 4 Credits.**

Principles and practice in the analysis of multivariate data. Correlation, partial correlation, principle components, factor analysis discriminate functions, canonical correlation, cluster analysis, multidimensional scaling. Emphasis on computer analysis of actual data.

P: gt st and intro stats cse.

Spring Odd.

### **MATH 667. Applied Regression Analysis. 4 Credits.**

Techniques for fitting linear regression models are developed and applied to data. Topics include simple linear regression, multivariate regression, curvilinear regression, linearizable models and time series.

P: gr st.

### **MATH 698. Independent Study. 1-3 Credits.**

P: gr st.