

DATA SCIENCES AND OPERATIONS

FALL 2022

DSO 530 — *Applied Modern Statistical Learning Methods*

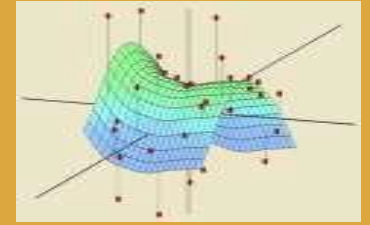
Section(s) – 16305R

Professor
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When
Mon/Wed, 11:00 AM – 12:20 PM

| Office | Units |
|----------------|--------------|
| <i>ACC 203</i> | <i>3.0</i> |



WHO SHOULD TAKE THIS COURSE?

Knowing how to implement modern statistical methods will give you an edge over less quantitatively competent MBA's.

COURSE OBJECTIVES

To give students an understanding of modern non-linear statistical methods and how to apply them in real business situations.

KEY CONCEPTS

- Modern statistical learning approaches
- Shrinkage methods
- Non-linear regression
- Tree methods
- Boosting and Bagging
- Support Vector Machines
- Statistical methods for Option Pricing
- Using the statistical software R
- Neural networks

COURSE DESCRIPTION

This course aims to provide an applied overview to such modern non-linear methods as *Generalized Additive Models*, *Decision Trees*, *Boosting*, *Bagging*, *Neural Networks* and *Support Vector Machines* as well as more classical linear approaches such as *Logistic Regression*, and *Nearest Neighbors*. We will cover these approaches in the context of Marketing, Finance and other important business decisions.