

APMA 3510 – From Data to Knowledge

Undergraduate Record Description:

Most elementary statistics courses start with a technique and present various surface level examples. This course will use relatively complicated data sets and approach them from multiple angles with elementary statistical techniques. Simulation techniques such as the bootstrap, important for engineering design, will also be taught.

Prerequisite:

APMA 3110 or APMA 3120 or STAT 1100 or STAT 2020 or STAT 2120 or AP credit in Statistics (score 5)

Course Objectives:

1. Data analysis: Start with data sets. **Each data set has a story** to tell and the goal is to find that story by running R programs that implement basic statistical techniques.
2. Simulation: This is an important tool for all engineering disciplines. Most new engineering designs are tested with simulations, often even before building a first prototype. Having the ability to interpret data generated with simulations is critical to successful engineering design.

Textbook:

J Verzani, Using R for Introductory Statistics, Chapman & Hall.