

**Boston University, College of Engineering**  
**ENG ME 366: Probability and Statistics for Mechanical Engineers**

**Course Information: Spring 2013**

**Meeting Details:**

Thursday 2:00 - 4:00 pm  
PSY B43

**Instructor:**

Professor Perkins  
Office: 15 St. Mary's Street, Room 146  
Phone: (617) 353-4991  
Email: perkins@bu.edu

**Course Website:**

<http://people.bu.edu/perkins/ME366>

**Office Hours:**

Tuesday/Thursday 10:30-11:30 am (email me to confirm) and by appointment

**Textbook:**

Montgomery and Runger, **Applied Statistics and Probability for Engineers**, (5<sup>th</sup> ed.), Wiley, 2011

**Homework Assignments:**

Homework assignments will be 30% of the course grade. Assigned (approximately) weekly.

**Exams:**

Midterm worth 30% of course grade. Final worth 40% of course grade. Midterm date and Final date to be determined.

**Course Topics:**

- Introduction to Probability: set theory, algebra of events, sample spaces, conditional probability, Bayes' theorem, Bernoulli trials, Binomial theorem
- Random Variables: continuous and discrete random variables, density and distribution functions, expected value, variance, standard deviation
- Several Random Variables: joint and marginal distributions, covariance and correlation, conditional distributions, conditional expectation
- Random Sequences and Series: law of large numbers, central limit theorem
- Applications: reliability theory, estimation, hypothesis testing, confidence intervals, control charts