**Stat 235 SYLLABUS**

COURSE NAME: Introductory Statistics for Engineering- Stat 235
DETAILS: 3 hour lectures, 3/2 hours Lab sections
TERM: Winter

COURSE DESCRIPTION

Descriptive data analysis. Calculus of Probability. Binomial, multinomial, Poisson, normal, beta, exponential, gamma, hypergeometric, and Weibull distributions. Sampling distributions. Estimation, testing hypotheses, goodness-of-fit tests, and one-way analysis of variance. Linear correlation and regression. Sampling. Quality control. Use of a microcomputer software package for statistical analyses in engineering applications.

REQUIRED MATERIAL

*Probability and Statistics for Engineers and Scientists, by* Anthony Hayter; Custom Edition, Duxbury, 2013. The custom edition is based on the 4th edition of the original text and contains chapters 1-10, and selected sections from chapters 11 and 12. There are a few copies of the text available in the Reserve Room (Cameron Library) for 2-hour loan.

LECTURE CONTENT

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| **Topic** | **Chapters in the text** | **Classes** |
| Descriptive Statistics | 6 | 2 |
| Probability | 1 (omit 1.6, 1.8) | 2 |
| Random Variables | 2 (omit 2.4.3 and 2.5) plus heuristic definition of independence | 2 |
| Discrete Probability Distributions Continuous Probability Distributions | 3 (omit 3.3, 3.5)4 (omit 4.3 – 4.6) | 22 |
| The Normal Distribution | 5 (omit 5.3.2 – 5.3.3 and 5.4) | 2 |
| Sampling Distributions | 7 and 5.3.2 – 5.3.3 (omit 7.2 and 7.4) | 2 |
| Inferences on a Population Mean | 8 | 3 |
| Comparing Two Population Means | 9 | 3 |
| Simple Linear Regression / Correlation | 12 (omit 12.8), Excel output | 2 |
| Inferences on One and Two Proportions | 10 | 2 |
| Analysis of Variance | 11 (omit 11.2), Excel output | 1 |

LAB CONTENT

There will be 5 lab assignments (due at 5 PM) and a lab exam. The labs will be held on PC computers in a Windows 7 environment. They will be using the statistical software package Microsoft Excel 2010. You will be required to generate your own output and then answer the questions from the output using your knowledge from class. Assignments are to be typed up in Microsoft Word and a title page should be included with YOURNAME, STAT 235, Lab Section #, and Lab # on it. Your ID should be included on page 2. ALWAYS keep a back-up!