



# STAT 285

## Introduction to Probability and Statistics

Fall 2006  
Day Course

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Students requiring accommodations as a result of disability, must contact the Centre for Students with Disabilities 604-291-3112 or csdo@sfu.ca

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**Instructor: Dr. T. Loughin (Surrey)**

### **Prerequisite:**

STAT 270 & MATH 232 (can be a corequisite). This course may not be taken for credit by students who have credit for STAT 330 prior to the Fall 03-3 semester.

### **Textbook:**

*Probability and Statistics for Engineering and the Sciences, 6<sup>th</sup> ed.*, by Jay L. Devore, Publisher: Duxbury Press

### **Calendar Description:**

This course is a continuation of STAT 270. Review of probability models; procedures for statistical inference from survey results and experimental data. Statistical model building. Elementary design of experiments and regression methods. Introduction to lifetime analysis. Introduction to time series; and introduction to stochastic processes.

### **Outline:**

1. Review of STAT 270 material and relationship to this course
2. Analysis of Categorical Data
3. Parameter estimation - least squares and likelihood methods
4. Hypothesis tests
5. Elementary design of experiments including analysis of variance
6. Introduction to Regression Analysis - simple and multiple
7. Introduction to lifetime analysis
8. Introduction to time series: ARIMA models, estimation, forecasting, confidence interval
9. Introduction to Stochastic Processes: Markov Chains and the Poisson process

### **Grading Scheme:**

Homework-20%  
Exam 1-20%  
Exam 2-20%  
Final Exam-40%

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*Students should be aware that they have certain rights to confidentiality concerning the return of course papers and the posting of marks. Please pay careful attention to the options discussed in class at the beginning of the semester. Students are reminded that Academic Honesty is a cornerstone of the acquisition of knowledge. Scholarly integrity is required of all members of the University. Please consult the General Guidelines of the calendar for more details.*

Revised September 2006