**Centre for Distance Education**
**Simon Fraser University**
**WMC 1300 291-3524**

**Faculty of Science**
**Department of Statistics and Actuarial Science**

# STATISTICS 101-3
# INTRODUCTION TO STATISTICS

An introductory course in the collection, description, analysis, and summary of data, including the concepts of frequency distribution, parameter estimation, and hypothesis testing.

The course consists of the following unit topics:

1. Introduction
2. Why Statistics?
3. Data Analysis by Computer
4. Exploring Univariate Data
5. Exploring Time Series
6. Exploring Relationships
7. Exploring Categorical Data
8. Principles of Data Presentation
9. Principles of Data Collection
10. Sampling Phenomena
11. Inference - Estimation
12. Inference - Testing Hypotheses
13. Inference - More Testing Hypotheses

**PREREQUISITE: B.C. Math 11 (or equivalent) or Basic Algebra.**
*If the prerequisite is not noted on your transcript, please contact an advisor in the Statistics department at SSC-K 10545, phone 604-291-3803.*

**NOTE: Students must have access to a computer and modem. The course depends upon discussion groups and conferencing over the Internet. Please see page 3 for Computer Requirements.**

You will need to have access to statistical software to complete this course. If you are able to visit the campus several times each week, then access to MINITAB software will be available through the Assignment Labs. MINITAB statistical software may also be purchased by those who need to use computing facilities from an off-campus location. The microcomputer store at SFU has the best price for MINITAB. If you do not have access to a PC, and cannot use the on-campus labs, you may have to purchase software other than MINITAB. See your course materials for further details.

**ALSO NOTE:** Students are responsible for any long-distance modem or internet service provider charges incurred.

**SEE REVERSE FOR MORE INFORMATION**

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**REQUIRED TEXT:**

Griffiths, D., Stirling, W.D. & Weldon, K.L., *Understanding data: Principles and practice of statistics*, Wiley, 1998.

**PLEASE NOTE: Students who choose to pick up their Course Materials from Distance Education are required to do so by the first day of the semester.**

**COURSE REQUIREMENTS:**

| | |
|---|---|
| Participation | 10% |
| Group submissions | 15% |
| Individual submissions | 15% |
| *Mid-term examination | 20% |
| *Final examination | 40% |

***Exam Schedules are in Registration Timetable.**

**SUPPLEMENTARY FEES:**

| | |
|---|---|
| Course Materials & Service Fee | $30 |

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291-3524 or 1-800-663-1411 (within BC)

# Computer Requirements: STAT 101

1. This course requires active participation over the Internet and statistical software. Students must have access to a computer and the Internet. Students wishing to connect to the Internet from home computers are responsible for connecting to either SFU or an external Internet Service Provider (ISP). Information on connecting to SFU through modem dialup lines is available at the Academic Computing Services (ACS) web site: **<http://www.sfu.ca/acs>**. Phone numbers for ACS are 604-291-3234 (Burnaby) or 604-291-5030 (Harbour Centre).

   **SFU students activate your SFU Computing Account online at: <http://my.sfu.ca>**

2. On-campus computer facilities are available. If you are using your own computer, **Minimum Computer Requirements** are:

   *Hardware*
   - PC (preferred) with Windows 95 or later. OR Macintosh with System 7.1 or higher
   - 16 MB RAM
   - 10 MB free disk space
   - 28.8 baud modem
   - CD-ROM drive

   *Software & Other*
   - Internet Connection
   - Email (e.g. Eudora, Outlook Express, etc.)
   - Internet Browser (e.g. Netscape or Explorer)
   - FirstClass Conferencing System (provided in your course materials package)*
   - Minitab software (or alternative) ** is required (minimum computer requirements may change depending on this software).

   *Described in course materials
   **Described below

   *General*
   - Prior computer knowledge is expected (i.e. ability to save files, install programs and maintain your computer).
   - Familiarity with the internet and related applications is highly recommended.

3. **Please Note:**

   - Support for general computer problems such as operating system difficulties and hardware problems is not available.
   - If you are having problems getting started with FirstClass, you may drop in to Teaching and Learning Technologies (WMC 1340) from 9:00 AM to 3:00 PM during the first week of classes. Students enrolled in Distance Education courses and unable to access the Burnaby campus may email **<help@firstclass.sfu.ca>** for assistance. Contact your Tutor-marker to find out about assistance on the other required software.
   - The subsidized modem hours allotted to students each semester are not normally sufficient to complete the required course work.
     - A voucher system has been implemented to allow students to pay for continued modem access on 604-291-4721 (after your subsidized access is used up). Vouchers may be purchased from the campus bookstores and are sold in increments of $20. At 60 cents/hour, each voucher is good for approximately 33 hours. Instructions are included with the voucher.
     - For complete information on SFU's Modem Access Policy, check the ACS web site above.
     - **Out of town students only**: It is recommended that students residing outside the Lower Mainland contact a local Internet Service Provider (ISP) since using SFU dialup services will result in additional long-distance charges. Check your local yellow pages under "Internet" for listings.

## 4. An Alternative for Statistical Software

Although MINITAB still has the best support for this course, Macintosh users will have difficulty finding the Mac version—MINITAB 10X. Alternative software that is available for both Mac and PC is XLStats—it assumes you have Microsoft Excel on your computer (often installed as a part of Microsoft Office or sometimes as a separate program) and is based on Excel. Stats is an addition to Excel that simplifies the use of Excel for Statistics.

XLStats can be downloaded from <http:www.man.deakin.edu.au/rodneyc/XLstats.htm>. The cost is approximately CDN$25.

You will need to read the first few pages of the MS Word file "XLstats.doc.mac" to get started. The way XLstats works is that you find (via the XLStatistics menu that will show up in Excel after XLStats is installed) the workbook that has data of the type you want to analyze, and then you copy and paste your data into the data area of the workbook. The other cells and worksheets have all the analyses that you would need to do with these data! You can expect a few difficulties the first time you use this, but if you are persistent, you will find the package very useful. The tutor-marker and/or supervisor of the course are willing to help you get going, but be aware that the package is new to them too (another reason to stick with MINITAB if feasible).

Note the Excel Interchange conference in which students can help each other with problems in getting used to XLStats. Use the TM's_Office for questions to the course tutor (but the turnaround may be slower).