

# STATISTICS FOR GRADUATE STUDENTS

## ONLINE RESOURCES

[Introduction to Data Analysis](#)

[Exploring Data](#)

[Pitfalls of Data Analysis \(or How to Avoid Lies and Damned Lies\)](#)

[Statistics notes and related articles published in British Medical Journal](#)

[Statistical literacy](#)

[HyperStat Online Statistics Textbook](#)

[Electronic Statistics Textbook](#)

[Topics in Multivariate Analysis](#)

[SURFSTAT Australia](#)

[Seeing Statistics](#)

[Resources to help you learn and use SPSS](#)

[Resources to help you learn and use Stata](#)

[Resources to help you learn and use SAS](#)

[Resources to help you learn and use HLM](#)

[Statistical Computing](#)

[Virtual Library: Statistics](#)

[Exploratory Factor Analysis](#)

[Annotated Factor Analysis Bibliography](#)

[UCLA Statistics Textbook](#)

[Structural Equation Modeling](#)

[Structural Equation Modeling II](#)

[Structural Equation Modeling III](#)

[Structural Equation Modeling on the Internet](#)

[Using Path Diagrams as a Structural Equation Modelling Tool](#)

[Multilevel Modeling Portal](#)

[Multilevel Analysis](#)

[HLM-Online](#)

[HLM library](#)

[Online HLM texts and programs](#)

[Textbook Examples of Multilevel Models by Joop Hox](#)

[Presentations and papers by HLM authors I](#)

[Presentations and papers by HLM authors II](#)

[Presentations and papers by HLM authors III](#)

## **DATASETS**

- [Bureau of Justice Statistics \(BJS\) Data Online](#)  
This site allows users to construct spreadsheets of crime data first by selecting a topic, e.g. homicides, and then choosing what variables they wish to see from a candidate list, for what years they wish to see the data for, and by what jurisdiction.
- [Bureau of Justice Statistics \(BJS\) Spreadsheets](#)  
Downloadable spreadsheets with aggregated data from a wide variety of published sources related to crime and similar matters in USA.

- CAUSE (Consortium for the Advancement of Undergraduate Statistics Education)  
Has over 120 datasets and activities related to datasets and links to other sources of datasets.
- Data and Story Library (DASL)  
A collection of datasets and related documentation (stories) which may be searched by data subjects or by statistical techniques.
- Education Queensland: Exploring Data  
Contains many of the datasets given on this web site are well-known datasets that are commonly used in the teaching of statistical concepts.
- FedStats  
Links to websites at the agencies within the USA Federal Government that contain data.
- FedStats (Children's Pages)  
Links to websites for children at the agencies within the USA Federal Government that contain data.
- Journal of Statistics Education (JSE) Data Archive  
Datasets from articles published in Journal of Statistics Education since 1993 plus some other datasets of interest to students.
- Kids Count 2005  
The site allows users to download the child well-being indicators and demographics for each the US states. The site also allows for the interactive creation of line graphs of the child well-being indicators.
- National Archive of Criminal Justice Data (NACJD)  
Age Levels: Secondary, Post-secondary, Adult This is an enormous data base containing crime statistics primarily from the U.S., although some international data is available also. Many of the data sets have

been used in published studies which are also referenced on the site. Some data sets require a fee to gain access privileges.

- OECD (Organisation for Economic Co-operation and Development) Statistics Portal  
Has many datasets (including microdata) and tables (sorted by category) for all areas covered by OECD.
- OZ Data and Story Library  
A library of data sets and associated stories. It is intended as a resource for teachers of statistics in Australia and New Zealand, and emphasis is given to data sets with an Australasian context.
- Social Science Data Archives  
Links to social science data archives around the world. This link takes you to the Europe page. From there you can also access non-European countries.
- Statistics New Zealand Datalab  
Manages access to anonymised unit record statistical data for approved projects. Access is provided at the discretion of the Government Statistician.
- StatLib Datasets Archive  
One of the original (and still best) sources for archived data. A system for distributing statistical software, datasets, and information by electronic mail, FTP and WWW.
- United Nations Statistical Databases  
Much data is provided with unrestricted Internet access.
- UNCTAD Statistics  
The United Nations Conference on Trade and Development offers statistical information on international economies.

- [University of California-Irvine \(UCI\) Machine Learning Repository](#)  
Has a wide variety of data sets from a variety of different subject areas
- [UCLA Statistics Data Sets](#)  
Has links to many data sets, including those from books (including Hand, et al.)
- [University of Massachusetts—Statistical Software Information](#)  
Datasets are sorted by statistical analysis method
- [WHO Statistical Information System and other WHO databases \(In English\)](#)  
[\(In Spanish\)](#) [\(In French\)](#)  
The World Health Organization Statistical Information System (WHOSIS) provides health-related statistical information for the entire world. In addition to information on diseases, this site contains data on population statistics, health indicators, and the number of health personnel in various countries.
- [Africa south of sahara:statistics](#)  
This site provides information on a variety of databases related to countries in africa in both English and French languages.

## **STATISTICAL CALCULATORS**

- [Java applets for power and sample size](#)  
Each selection provides a graphical interface for studying the power of one or more tests. They include sliders (convertible to number-entry fields) for varying parameters, and a simple provision for graphing one variable against another.
- [Survey Research Tools Pearson Page](#)  
Sample Size and Confidence Interval Calculator, Significant Difference Calculator

- UCLA Statistical Calculators List  
Includes calculators for Power, Two Sample t-test, Correlation and Regression, Sample Size.
- Web Pages that Perform Statistical Calculations!  
Compiled by John C. Pezzullo. Over 600 Links (including 380 Calculating Pages).

## **SOFTWARE**

- ActivStats  
An introductory statistics course on CD-ROM for Windows and Mac. Integrates video, simulation, animation, narration, text, interactive experiments, Web access, and the package Data Desk. Available for SPSS, to teach statistical concepts and show users how to apply them to real data using SPSS.
- Analyse-it  
The most popular statistical software add-in for Microsoft Excel (for Windows).
- Biostatistical Software Routines
- BMDP  
Powerful statistical analysis software for the PC. Featuring a comprehensive library of over forty statistical routines, including complex ANOVA designs, non-linear and stepwise regression, time series, survival analysis, maximum likelihood estimation, various multivariate analyses, and all the basics.
- Cytel Software  
Some features: StatXact - exact nonparametric inference. StaTable (Electronic tables for Statisticians and Engineers), EaSt (Software for Planning and Interim Monitoring of Group-Sequential Clinical Trials), and LogXact (Software for Exact Logistic Regression) - incorporates Egret for biomedical and epidemiological software.

- DAG Stat  
A range of statistics calculable from 2 by 2 tables, for evaluating diagnostic tests and interrater agreement.
- Data Desk  
Fast intuitive tools for Data Visualization, Data Mining, and Statistical Analysis.
- DISCUS  
Discovering Important Statistical Concepts Using Spreadsheets
- IDAMS  
Internationally Developed Data Analysis and Management Software Package is an evolving integrated collection of computer programs for numerical information processing and statistical analysis made by UNESCO. It provides a complete set of data manipulation and validation facilities and a wide range of classical and advanced statistical techniques, including interactive construction of multidimensional tables, graphical exploration of data and time series analysis, and modern graphical user interface. The version for 32-bit Windows operating system, WinIDAMS, is available in English, French and Spanish, and provided free-of-charge upon request.
- INSTAT  
A general statistics package for interactive data analysis, is simple enough to be useful in statistics teaching and has the power to assist research in any discipline. It has many facilities for analysing climatic data.
- JMP  
Harnesses both statistics and graphics so that they complement each other. Enables the user to move through hundreds of angles on your data, increasing the chances of finding something valuable.

- Lisp-Stat  
Software for Mac, UNIX and Windows, for data analysis, statistical instruction and research, with emphasis on dynamic graphical methods.
- Math Tools  
Technical computing portal.
- Matlab  
A language for technical computing that combines numeric computation, basic statistics, advanced graphics and visualization, and a high-level programming language (PC, Mac, Unix).
- Minitab  
Includes all basic statistical features plus quality control and experimental design tools.
- PaceXL  
For introductory-intermediate courses in statistics and data analysis - used in conjunction with Excel.
- Palisade  
Risk analysis, decision analysis, optimization software, and more.
- Partek Pro software  
Partek develops and markets interactive statistical analysis and visualization software tools and related consulting services. Partek has as its customers some of the largest companies in life science and engineering.
- Power analysis software list
- Power analysis software review
- R  
R is 'GNU S', a freely available language and environment for statistical computing and graphics which provides a wide variety of

statistical and graphical techniques: linear and nonlinear modelling, statistical tests, time series analysis, classification, clustering, etc.

- S-PLUS

Tool for data analysis, data mining, and statistical modeling, powerful visualization and analysis capabilities for a wide variety of applications and especially for finance, life sciences and manufacturing.

- SAS

An integrated suite of software -- data access, data management, data analysis and data presentation. Includes executive information systems; data entry, retrieval, and management; report writing and graphics; statistical and mathematical analysis; business planning, forecasting, and decision support; operations research and project management; statistical quality improvement; computer performance evaluation; and applications development.

- Software Reviews

- SPSS

Especially applicable for social survey/market research, quality improvement and scientific research. It includes a comprehensive set of statistical procedures and includes data mining.

- SPSS Science

Includes a comprehensive set of products that meets the needs of scientists and engineers. Includes quality SYSTAT and SigmaPlot graphics.

- SPSS Tools

- Stata

Is a complete statistical, graphical, and data-management capabilities and is also fully programmable; used by researchers of all disciplines.

- STATISTICA

A comprehensive, integrated statistical data analysis, graphics, data

base management, and custom application development system featuring a wide selection of basic and advanced analytic procedures for science, engineering, business, and data mining applications.

- Statistics.com

Information about statistics software (major packages like SAS, SPSS and S-PLUS, shareware and smaller packages too), as well as about statistics analysis, data analysis and short courses in statistics.

- StatsDirect

- STEPS

Statistical education through problem solving.

- WINKS

General Statistical Analysis Software eg - chi square, regression, nonparametrics, ANOVA, probability, QC plots, cpk, graphs, life tables, time series, crosstabs, t-tests, correlation, etc.

- XLSTAT

The leading data analysis and statistical solution for Excel. Offers a wide variety of functions to enhance the analytical capabilities of Excel, making it the ideal tool for your everyday data analysis and statistics requirements.