Crunch your own Numbers!

Does your major involve collecting and/or analyzing data from experimental measurements, simulations, customer surveys, financial transactions, etc.? Do you need to know more about t-tests, ANOVA, "rejecting the null hypothesis" or p-values? In the courses listed below, you will learn how to design experiments, collect data, analyze it with appropriate models, methods, and software, and make valid decisions based on your data. Put them together to earn a minor or major in statistics! Even consider a master's degree in Statistics at BGSU. Statisticians are always in great demand in industry, government, education, and many other areas. Data collection and analysis is an integral part of the scientific method. Learn the tools that will make you irreplaceable!

Below are some courses you can take in order to work toward a minor or major. Follow these links for checksheets with the detailed course requirements and options:
www.bgsu.edu/catalog/A_S/A_S79.html and www.bgsu.edu/catalog/CBA/CBA41.html

Newly revised minor in Statistics: Consider these courses, but see above for more options:

- Math 1310 Calculus I — *derivatives, integrals, applications in many fields*
- Math 2470 Fundamentals of Statistics — *probability and some stat techniques; for all science majors*
- Math 3420 Intro. to Practice of Statistics — *real data sets and how to analyze them*
- Stat 4060 Sample Design — *plan surveys; stratified, systematic and cluster sampling*
- Stat 4140 Statistical Quality Control — *make processes run smoothly; detect changes in performance*
- Stat 4160 Time Series Analysis — *analyze measurements taken over time; forecasting*

Minor in Applied Statistics: Consider these courses, but check above for full details:

- Math 1310 Calculus I — *derivatives, integrals, applications in many fields*
- Math 2320 Calculus II — *integration, sequences, series; for scientists and engineers*
- Stat 2110 Statistical Methods I — *probability, distributions, sampling, descriptive statistics*
- Stat 2120 Statistical Methods II — *estimation, hypothesis testing, regression with packages*
- Stat 4020 Regression Analysis — *linear, nonlinear, and multiple regression*
- Stat 4080 Experimental Design — *constructing statistical designs and analyzing resulting data*
- Math 4470 Exploratory Data Analysis — *modern techniques in data analysis, smoothing, outliers*

Major in Statistics: Consider these courses, but consult the checksheet as soon as you can:

- Math 1310 Calculus I — *derivatives, integrals, applications in many fields*
- Math 2320 Calculus II — *integration, sequences, series; for scientists and engineers*
- Math 2330 Multivariable Calculus — *functions of two variables, partial derivatives, vectors*
- Math 3320 Elementary Linear Algebra — *linear systems, vectors, matrices; great for statistics!*
- Math 4410 Probability — *solid mathematical foundation for probability and statistics*
- Math 4420 Statistics — *theory of estimation and hypothesis testing*
- Math 4340/4650 — *advanced calculus / mathematical analysis*
- Three electives from selected 4000-level courses in Math, Computer Science, Statistics

See bayes.bgsu.edu/statistics.htm for more information about Statistics at BGSU. Contact Dr. Junfeng Shang (jshang@bgsu.edu) or Dr. Ken Ryan (kjryan@bgsu.edu) for advising information.

- Statistics is the Science of Data -