

Statistics

OBJECTIVES

The need to analyze data is common to all disciplines. Statistics courses are offered in order to:

- Provide an introduction to statistical procedures as part of the critical analysis of information, and
- Provide the background necessary for the application of statistical methods to various disciplines.

Students whose programs require statistics may wish to consider two options. (1) Those with strong math skills may take STAT 327 (5 credits), which is a fast-paced introduction to statistics. (2) Those with weaker math skills may begin with STAT 243 (4 credits). After completing MATH 111 (College Algebra) these students may take STAT 352 (4 credits). Note that STAT 327 is offered online as well as on-campus, while STAT 352 is offered on-campus only. Students should consult their advisors to determine which path is best for them.

STATISTICS COURSE DESCRIPTIONS

STAT 110 - Selected Topics (Credits: 1 to 6)

Topics of current interest to students and faculty.

STAT 210 - Selected Topics (Credits: 1 to 6)

Topics of current interest to students and faculty.

STAT 241 - Elementary Statistics I*SMI (Credits: 2) Gen Ed Core-Natural, Math & Info Sciences

This course is the first of a two course sequence. The two course sequence will be equivalent in credit and content to STAT 243 “Elementary Statistics”. Topics include experimental design, introduction to histograms, the normal distribution, sampling, the Law of Averages, and the Central Limit Theorem. Prerequisites: MATH 095.

STAT 242 - Elementary Statistics II*SMI (Credits: 2) Gen Ed Core-Natural, Math & Info Sciences

This course is the second of a two course sequence. The two course sequence will be equivalent in credit and content to STAT 243 “Elementary Statistics”. Topics include sampling error, confidence intervals,

and hypothesis testing including z-tests and chi-square tests. Prerequisites: STAT 241.

STAT 243 - Elementary Statistics*SMI (Credits: 4) Gen Ed Core-Natural, Math & Info Sciences

This is an introduction to concepts of statistical data analysis including experimental design, descriptive statistics, the normal distribution, confidence intervals and hypothesis testing. Students will also work with statistical computing packages such as MINITAB. Prerequisites: MATH 095.

STAT 244 - Correlation & Regression (Credits: 1)

This is an introduction to concepts of linear correlation and regression analysis. Students will also work with statistical computing packages such as MINITAB. Prerequisites: STAT 241 or STAT 243 (prerequisite or co-requisite).

STAT 310 - Selected Topics (Credits: 1 to 6)

Topics of current interest to students and faculty. Student must have at least sophomore standing to register for this course.

**STAT 327 - Stat & Exper Design*SMI (Credits: 5)
Gen Ed Core-Natural, Math & Info Sciences**

Principles of experimental design and associated data analysis techniques such as regression, hypothesis testing, analysis of variance, and non-parametric statistics; experience with statistical packages for computers; introduction to exploratory data analysis. Prerequisite: Student has met math requirement for graduation. This course requires students to apply basic principles of mathematics including algebra. Intermediate Algebra or equivalent recommended. Students who have concerns about their level of mathematics preparation should discuss this with their adviser or their instructor. Student must have at least sophomore standing to register for this course.

STAT 352 - Statistics (Credits: 4)

A second term of statistics covering correlation, simple and multiple linear regression, and one and two sample hypothesis testing including t-tests, chi-square tests, analysis of variance, tests related to regression, and non-parametric statistics. Applications utilizing statistical software are used throughout the course. Prerequisite: STAT 243 (or STAT 327) and MATH 111. Student must have at least sophomore standing to register for this course.

STAT 410 - Selected Topics (Credits: 1 to 6)

Topics of current interest to students and faculty. Student must have at least junior standing to register for this course.