

Departmental Learning Goals for Psych 315: Understanding Statistics in Psychology

By the end of this course, students will be able to:

1. Understand basic statistical methods including:

- (a) visual display of data;
- (b) quantitative summaries of data;
- (c) null hypothesis significance testing;
- (d) confidence intervals for population parameters;
- (e) measures of effect size;

2. Make appropriate choices among descriptive statistics in order to summarize psychological data in terms of location and spread, and, in the case of multiple variables, degree of association.

3. Understand and appreciate the logic behind hypothesis testing. Understand that conclusions drawn from hypothesis testing are limited and that statistical tests can prove nothing conclusively. Appreciate that statistical conclusions should be understood probabilistically and that any statistical decision has a probability of being in error.

4. Understand and apply basic inferential statistical tests to answer specific statistical hypotheses. Be able to select appropriately choices among inferential statistical methods based on the types of variables under study, the number of variables under study, and how many samples are obtained.

5. Use scientific writing to write about statistical methods selected and conclusions drawn from data.

6. Use basic spreadsheet software to create visual displays of data, compute descriptive statistics, and obtain results of basic statistical tests.