ST/STAT 243Z Elementary Statistics I

The following provides a summary of the 2022 Recommendation Report for the CCN Statistics Subcommittee. Transfer Council recommends that due to changes in course information under OAR 715-025-0065 through 0115, colleges and universities should ensure students' academic progress is not disrupted. Courses completed before CCN changes should count toward graduation, even if requirements shift. Holding students harmless means honoring their efforts, supporting them through transitions, and keeping learning—not compliance—the central focus. CCN course information should be adopted as written. For more detailed information on what can be added to the course description and course learning outcomes, see the CCN Revised Framework and for more general information, see CCN Reports & Memos on the Educator Resources—Common Course Numbering webpage.

Approved CCN Course Information

Date Approved:
November 24, 2022

Catalog Dates:
Required to begin appearing in the 2023-24 catalog.

Review Timeline:

- First Annual Review: Spring 2025
- First Triennial Review: Spring 2027

Course Number and Prefix:
ST or STAT 243Z

Course Title:
Elementary Statistics I

Course Credits:
4

Course Description:
A first course in statistics focusing on the interpretation and communication of statistical concepts. Introduces exploratory data analysis, descriptive statistics, sampling methods and distributions, point and interval estimates, hypothesis tests for means and proportions, and elements of probability and correlation. Technology will be used when appropriate.

Course Learning Outcomes:
Students will be able to:

1. Critically read, interpret, report, and communicate the results of a statistical study along with evaluating assumptions, potential for bias, scope, and limitations of statistical inference.
2. Produce and interpret summaries of numerical and categorical data as well as appropriate graphical and/or tabular representations.
3. Use the distribution of sample statistics to quantify uncertainty and apply the basic concepts of probability into statistical arguments.
4. Identify, conduct, and interpret appropriate parametric hypothesis tests.
5. Assess relationships in quantitative bivariate data.

Required Course Content:

In order to ensure alignment across institutions, faculty needed to develop a shared understanding of the skills and concepts that must be covered in this course. Each institution is responsible for ensuring that faculty have access to this outline to inform course content.

1. Critically read, interpret, report, and communicate the results of a statistical study along with evaluating assumptions, potential for bias, scope, and limitations of statistical inference.
    a. Classify study designs and variable types and identify methods of summary and analysis.
2. Produce and interpret summaries of numerical and categorical data as well as appropriate graphical and/or tabular representations.
    a. Identify patterns and striking deviations from patterns in data.
    b. Identify associations between variables for bivariate data.
    c. Apply technology to calculate statistical summaries and produce graphical representations.
3. Use the distribution of sample statistics to quantify uncertainty and apply the basic concepts of probability into statistical arguments.
    a. Interpret point and interval estimates.
4. Identify, conduct, and interpret appropriate parametric hypothesis tests.
    a. Identify the appropriate test based on variable type.
    b. Identify situations where a one or two tailed test would be appropriate.
    c. Conduct tests of one mean.
    d. Conduct tests of one proportion.

e. Explain the distinction between statistical and practical significance and the potential for error in hypothesis test conclusions.

f. Apply technology to perform hypothesis tests calculations.

5. Assess relationships in quantitative bivariate data.

   a. Address questions relating correlation as a linear association between variables.

   b. Distinguish between correlation and causation within data.

   c. Apply technology to explore bivariate data.

Review Cycle:

The Subcommittee will meet to review objectives for STAT 243 in Spring 2025.

- Implementation of changes to course content will not be in place until Fall 2023.
- Stakeholder feedback will be critical in evaluating how these changes have impacted the courses where STAT 243Z serves as a prerequisite. Such data will not be available until the year after initial implementation.
- Departments should contact these programs within their schools and search for feedback prior to review of topics in spring 2025 in order to adjust the course.

Review of deferred topics will be addressed at the behest of Transfer Council at a later date.
