

## STATISTICS ASSESSMENT PLAN

**Department/Program:** Mathematics and Statistics

### Student Learning Objectives (SLO's) for MAJORS in STATISTICS

1. Students will demonstrate expertise in the core skills required in the study of statistics, including exploratory and graphical data analysis, design of studies and issues of bias, and parametric and nonparametric statistical modeling.
2. Students will demonstrate mastery of the mathematical foundations of statistics by identifying why and when statistical methods work.
3. Students will demonstrate facility with appropriate statistical software packages in order to effectively handle increasingly complex data and sophisticated approaches to analyze it.
4. Students will demonstrate basic familiarity with several statistical applications and detailed knowledge of at least one application.
5. Students will be able to communicate effectively about statistics in both written and oral form using both technical and nontechnical language.

Outcome Measure	SLO's	Description of Departmental Use of Data
A departmentally approved set of common final exam questions for STAT 140 and STAT 240	1	Data are reported to the department chair after each semester and reviewed annually by the instructors of the course, who make recommendations to the department for further action.
Each statistics major enrolled in STAT 441 and in STAT 442 will submit a formal probability/statistics derivation selected by the instructor	1, 2	Derivations will be evaluated by a departmental committee annually, which makes recommendations to the department for further action.
Each statistics major will give a conference-style presentation in STAT 499 and submit a companion written paper about an applied statistics project; the project requires use of statistical analysis software.	1, 2, 3, 4, 5	Presentations and papers are evaluated by two or more faculty members initially and then the papers reviewed by a departmental committee annually, which makes recommendations to the department for further action.

SAS certification tracking	3	The department will track how many statistics majors take the SAS certification exam and how many successfully pass it.
Each statistics major in STAT 363 will submit a project report showcasing their SAS skills	3, 5	Reports will be evaluated by a departmental committee annually, which makes recommendations to the department for further action.
Senior Exit Interviews	1, 2, 3, 4, 5	Chair gathers student responses to several questions, reports to department.

1. **Results**—Briefly discuss assessment activities and findings during this cycle and describe what recent programmatic changes, if any, were made in response to the findings? Discuss the rationale for any changes by referencing the SLO # and the findings from your assessment program.

**Assessment Activities Table**

<b>This year we assessed SLO(s)...</b> (list each SLO in its own row)	<b>...using Outcome Measure(s) (OMs).</b> (See Report Instructions for description and example) Direct OM(s): Indirect OM(s):	<b>Findings:</b> <b>program-performance for these SLOs, as indicated by these OMs, is:</b> <b>Excellent/Satisfactory/Needs Improvement</b> (See Report Instructions for description and example)	<b>Strategies for Improvement</b> <b>(in selected areas):</b> (See Report Instructions for description and example)

**Discussion (Optional):**

2. What **revisions**, if any, to current SLOs and/or outcome measures did you make from previous plan? Provide the rationale for any change(s).
  
3. **Plans**- What learning objectives will you be assessing in the next cycle?