SUMMARY OF ASSESSMENT

College	Science
Department	**Statistics and Biostatistics**
Program	**BS Statistics**
Reporting for Academic Year	2024-2025

Program Learning Outcomes (PLO)

PROGRAM LEARNING OUTCOMES (PLOs)	
Students graduating with a BS in Statistics will be able to:	
PLO 1	Apply basic computational skills in descriptive statistics and data visualization, hypothesis testing, confidence intervals, modeling and error analysis, including the use of large data sets.
PLO 2	Analyze data using appropriate software, including cloud-based software, and to interpret results covering descriptive statistics and data visualization, hypothesis testing, confidence intervals, modeling and error analysis, including the use of large data sets.
PLO 3	Communicate to others results involving descriptive statistics and data visualization, hypothesis testing, confidence intervals, modeling and error analysis using reproducible research best practices.
PLO 4	Generate data sets using methods of design of experiments, survey sampling, or observational data, including data scraping and data wrangling from open source data and free data sources.

Program Learning Outcome(S) Assessed

Year 2: 2024-2025	
1. Which PLO(s) to assess	PLO 4
2. Is it aligned to an ILO?	No
3. If yes, list ILO.	
4. Course name and number	STAT 432 – Introduction to Linear and Logistics Regression
5. SLO from course	Apply statistical methodologies, including (a) simple and multiple linear regression, (b) model diagnostics and transformations, and (c) logistic regression. _ Derive and understand basic theory underlying these methodologies. _ Use R and RStudio to analyze data sets, estimate statistical models, and conduct model diagnostics.
6. Assessment activity	Data Analysis and Project
7. Assessment Instrument	Departmental Rubric
8. How data will be reported	Quantitative , report to include proportion of students in each level 1-5 (5 mastered)

9. Responsible person(s)	Instructor for STAT 432, Assessment Rep
10. Time (which semester(s))	Spring 2025
11. Ways of closing the loop	Internal assessment of assignment and rubric

Summary of Assessment Process

Instrument(s):

For the Statistics BS program STAT 432 "Regression" was formally identified as the course to use for end-of-program assessment. Majors usually take this in their last semester.

Sampling Procedure: We sample by gathering data from all students attempting to complete our capstone experience. Specifically, the capstone experience for the BS Statistics is the regression course, STAT 432.

Sample Characteristics: All undergraduate majors completing STAT 432 were sampled.

Data Collection: STAT 432 is given every Spring for which the SLO's identified are assessed by the instructor on record.

Data Analysis: The instructor creates a rubric 1-5 (5 mastered) for the project assigned.

Course name and number	STAT 432 – Introduction to Linear and Logistics Regression
SLO from course	Upon successful completion of this course, students will be able to communicate statistical concepts clearly and appropriately to others.
Assessment activity	Data Analysis and Project
Assessment Instrument	Departmental Rubric
How data will be reported	Quantitative, report to include proportion of students in each level 1-5 (5 mastered)
Responsible person(s)	Instructor for STAT 432, Assessment Rep

Summary of Assessment Results

Main Findings: **Main Findings:**

A total of 27 students enrolled in STAT 432 for Spring 2025 and were assessed and the breakdown based on the rubric is below. Here 18 are for students who scored a 90 or above on the test. We had 4 students who withdrew from the class.

Percentages of Rubric-Scores for Statistics BS 2024-2025

Score	age) of students
1	
2	
3	
4	
5	

Recommendations for Program Improvement:

After semester conversion, much of existing course content and course sequences have been altered. Also with the popularity of our Data Science concentration, we see an increase of student advising.

Next Step(s) for Closing the Loop:

We will continue to monitor the evaluation of our SLO's to determine if additional advising or curricular changes need to be addressed.

Other Reflections: We have no additional reflections on assessment currently.

C. Assessment Plans for Next Year

Most PLOs are the same and assessment will be for comparable courses.

Year 3: 2025-2026	
1. Which PLO(s) to assess	PLO 1
2. Is it aligned to an ILO?	Yes
3. If yes, list ILO.	Thinking & Reasoning
4. Course name and number	STAT 432 – Introduction to Linear and Logistics Regression
5. SLO from course	Apply statistical methodologies, including (a) simple and multiple linear regression, (b) model diagnostics and transformations, and (c) logistic regression. Communicate statistical concepts clearly and appropriately to others.
6. Assessment activity	Data Analysis and Project
7. Assessment Instrument	Departmental Rubric
8. How data will be reported	Quantitative , report to include proportion of students in each level 1-5 (5 mastered)

9. Responsible person(s)	Instructor for STAT 432, Assessment Rep
10. Time (which semester(s))	Spring 2026
11. Ways of closing the loop	Internal assessment of assignment and rubric