

Program-Level Assessment: Annual Report

Program Name (no acronyms): BS in Biostatistics

Department: Undergraduate Public Health Programs

Degree or Certificate Level: BS

College/School: CPHSJ

Date (Month/Year): Oct 2021

Assessment Contact: Lauren Arnold

In what year was the data upon which this report is based collected? 2020-2021 Academic Year

In what year was the program's assessment plan most recently reviewed/updated? 2020

1. Student Learning Outcomes

Which of the program's student learning outcomes were assessed in this annual assessment cycle? (Please list the full, complete learning outcome statements and not just numbers, e.g., Outcomes 1 and 2.)

This assessment cycle focused on LOs 1-2:

LO1: Perform computations, derivations and calculations as they relate to calculus and linear algebra.

LO2: Use standard statistical software to create and manage datasets and perform basic statistical tests

2. Assessment Methods: Artifacts of Student Learning

Which artifacts of student learning were used to determine if students achieved the outcome(s)? Please describe and identify the course(s) in which these artifacts were collected. Clarify if any s Clny s Ccpy sy sesss2 0.002ffe2 0.002(I)02(

4. Data/Results

What were the results of the assessment of the learning outcome(s)? Please be specific. Does achievement differ by teaching modality (e.g., online vs. face-to-face) or on-ground location (e.g., STL campus, Madrid campus, other off-campus site)?

Evaluation of the Capstone project found that 100% of students (n=4) achieved LO1 and LO2.

	Average	% achieving outcome
LO1	1.1	100%
LO2	1	100%

5. Findings: Interpretations & Conclusions

What have you learned from these results? What does the data tell you?

This is only the third year for which we have data on the graduating class of Biostatistics majors (2020 had one graduate, so the data were not reported due to being an identifier). Data from the Capstone course continue to show a positive trend with all students achieving both LO1 and LO2. This indicates that the curriculum has been designed in a way that enables students to develop and practice skills to a point which they achieve PLO 1 and 2 by graduation. As the major continues to have a small number of graduates (~20 students in 4 years), upcoming years will continue to add to the "n" for assessment and help make estimates more precise. As more data are gathered, we look forward to making program level changes (e.g. revisions to the Capstone project or lower-level course content) in future years.

It is noted that data from this year are not directly comparable to prior years. This year, there was no oral presentation component to the project due to the hybrid nature of class (i.e. not every student attended in person). As such, LO assessment was based solely on the written project vs. written and oral project components in the past.

Please describe the actions you are taking as a result of these findings.

No changes are being taken as a result of these findings (see below).

Other changes: The biostatistics major requires four mathematics courses (e.g., Calculus I, Calculus II, Calculus III, Linear Algebra) as pre-requisites to several BST courses. The major was originally designed for these math courses to provide a foundation for theoretical work in BST4100 (Theory of Biostatistics I), BST4200 (Theory of Biostatistics II) and BST3200 (Applied Biostatistics II). As the major has a small number of students; because the University has a minimum enrollment for a course to run; and to address teaching capacity limitations, BST4100 and BST4200 are now cross-listed with the graduate equivalents. As such, undergraduate, masters, and doctoral students are in class together; each training level has a syllabus that reflects the PLOs and needs of those students. Because the masters and doctoral are not required to have Calculus III and Linear Algebra as pre-requisites, the theory covered in BST4100 and BST4200 is taught without using these higher-level math skills. Similarly, when BST3200 was developed, the intention was for a14TJ08a)-1.(s)-2..2(w)-io-5.4(un5(k)1.5(H.5(h)-o-5.4

C. What were the findings of the assessment?

Despite the cross-listing of courses, and despite no other curricular changes, Capstone data continue to indicate a positive trend, that the curriculum is designed in a way that enables students to achieve or exceed

Appendix A: BST4400 Capstone Project Rubric for Assessment of Program Learning Outcomes

BS-BST LO1: Perform computations, derivations and calculations as they relate to calculus and linear algebra.

BS-BST LO2: Use standard statistical software to create and manage datasets and perform basic statistical tests.