College	Science
Department	Statistics and Biostatistics
Program	MS Biostatistics
Reporting for Academic Year	2020-2021
Last 5-Year Review	2018-2019
Next 5-Year Review	2023-2024
Department Chair	Ayona Chatterjee
Author of Review	Ayona Chatterjee
Date Submitted	01 October 2021

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The five-year review includes planning goals for curriculum (3.1), students (3.3), faculty (3.4), and resources (3.5).

To summarize, the curriculum plans (3.1) include:
1. Adjust our Biostatistics MS program curriculum in response to semester conversion
2. Continue offering two sections of core graduate courses and grow our graduate program
3. Develop online courses at the graduate level

The student plans (3.3) include:
1. Grow our Biostatistics MS program
2. Continue teaching schedules that accommodate working students including online classes
3. Raise funds to increase our scholarship and leadership funds

Faculty plans (3.4) include:
1. Anticipation of our junior faculty receiving retention or promotion so that they can devote more time to program development and enhancement
2. Hire tenure-track faculty to replace recent attrition due to retirement
3. Hire faculty with expertise reflecting industry demands in Statistical Computation, Large Data Analysis, Healthcare Analytics and Data Analytics
4. Increase our number of long-term lecturers

Resource plans (3.5) include:
1. Support use of cloud based software for students including but not lim

3. Increasing our current 1.0 staff support to our former level of 1.75 staff support

Regarding 3.1 (Curriculum):
1. Our Biostatistics roadmap and course offerings have been updated to best serve our students. We have an updated course BSTA 663 called Clinical Trials in Pharmaceutical and Biomedical Industries.
2. Since our conversion to semesters, all graduate courses are now standalone classes. We are still living through the pandemic and dealing with consequences of having a lot of classes online. This has negatively affected some of our international student enrollments. However, we have been proactive with admissions and our numbers are slightly better for Fall 2021 as compared to last year.
3. We continue to offer students online courses but with added flexibility of many on-ground classes too.

Regarding 3.3 (Students):
1. The Biostatistics MS program's enrollment has stayed relatively constant over the last three years.
2. When not distance learning, we have continued to make it possible to complete our graduate program by taking classes after 5:30pm.
3. Fundraising did not increase this year.

Regarding 3.4 (Faculty):
1. Assistant Professor Wendy Rummerfield was hired and started this Fall of 2021.
2. Assistant Professor Jiyoun Myung started in Fall 2020 and is successfully retained and entering her second year. Assistant Professors Li Zou and Eric Fox were both granted retention, now entering their fourth year. Professor Eudey begins her fourth year of FERP in Fall, 2020. Professor Watnik continues to work as Associate Dean, Academic Programs and Services.
3. The Department received approval to hire for one position during the 2021-2022 academic year. This search has a focus for finding faculty with expertise in Biostatistics. The position is open currently and review pf candidates will begin October 2021.
4. We currently have three lecturers on 3-year contracts and three lecturers on a 1-year contract.

Regarding 3.5 (Resources):
1 We have been able to support the use of RStudio Cloud for all our upper division data science classes in the undergraduate program.
2. Lectures teaching on ground have access to microphones to use during class.
3. Our new ASC, Jamane Joseph, is continuing in her position to support the department. Our staffing level has remained the same.

We have a new roadmap for our MS Biostatistics program. This includes

updated courses to meet the demands on the Bay Area job market. We also hope to
offer more online options for elective classes.

We have updated the MS Biostatistics roadmap for our program. The
units are the same just updated courses.

Nothing to add. But we do notice a higher demand for online instruction for
certain courses.

We currently have an on-going hire with the bb-

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We have long used the culminating experience of the Comprehensive Examination along with feedback from alumni and community industry leaders in assessing our programs. Student learning outcomes and institutional learning outcomes were previously identified and mapped to specific courses.

We implemented quantitative assessment of the results of our Comprehensive Examination by mapping all but one of the PLO's (#2) to specific course problems on the MS comprehensive exam. Rubrics were established for the outcomes and implemented.

It was decided that PLO #2 is better addressed by term projects that involve communication (either a written project or presentation that is worth considerable weight in the grading scheme of the course). BSTA 663 "Clinical Trials in the Pharmaceutical and Biomedical Industries" is used for assessment of PLO #2,

We sample by gathering data from all students attempting to complete our capstone experience.

All MS Biostatistics students at, or near, to the end of their program were identified.

The comprehensive exam is given twice a year, Fall and Spring. All tenure/tenure track faculty participate in the evaluation of student performances on this exam that are then used to evaluate the PLO's.

We currently utilize Google Sheets to incorporate the rubrics that were established for the outcomes, to analyze the data.

Main Findings:

Frequencies of Rubric Score for Biostatistics MS 2020-2021
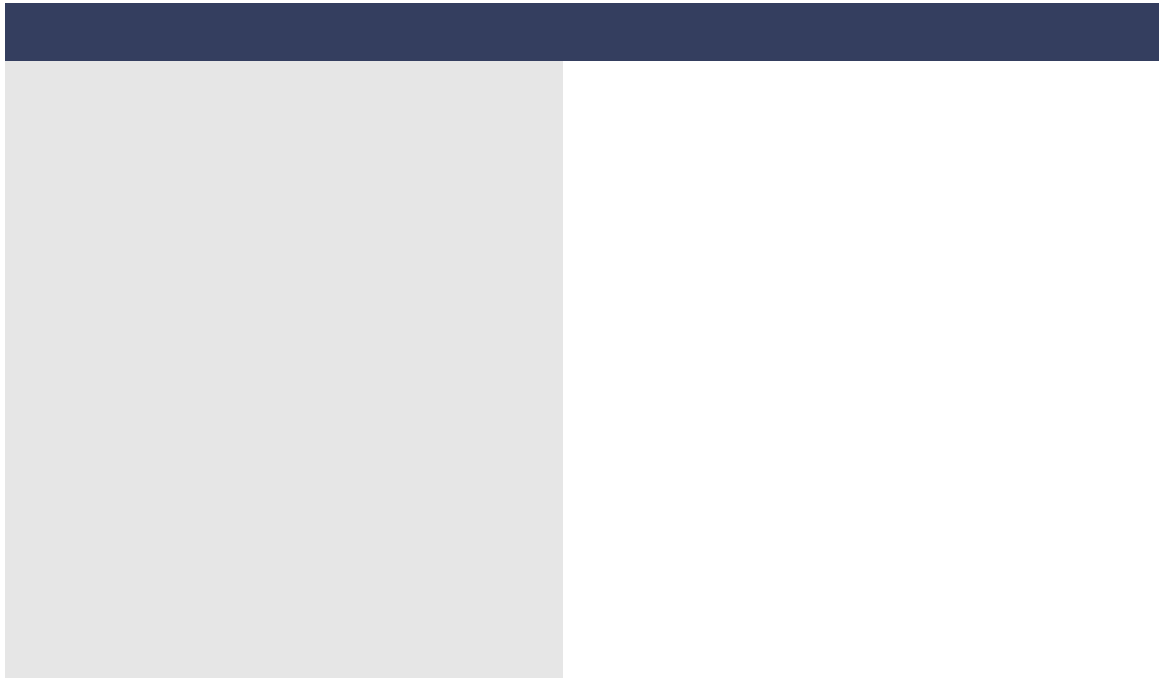
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* SLO2 was from a course rubric and not all in the course took the Comprehensive Examination.

Due to semester conversion, much of existing course content and course sequences have been altered. This has resulted in a drastic increase of student advising.

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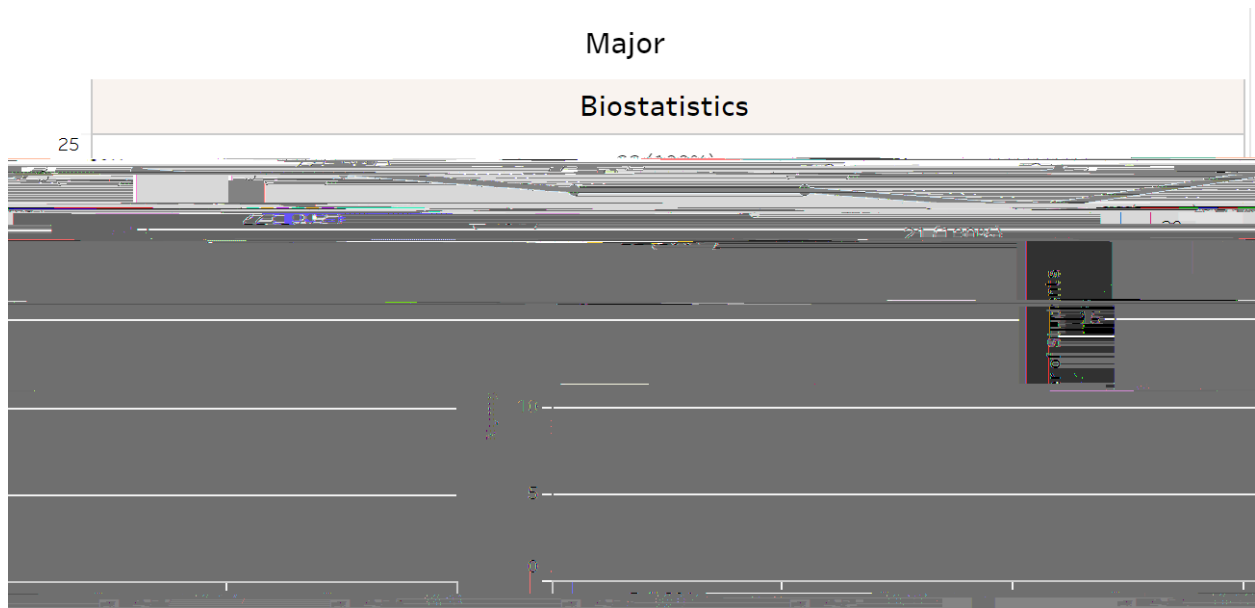
We have noμd

Tables of enrollment for Fall 2020 are broken down by race/ethnicity and sex.

Asian	10 (33)
Black/African American	2 (5)
International	2 (5)
Latinx	2 (9)
Unknown	3 (13)
White	4 (17)
Total	23
Female	17 (74%)
Male	6 (26%)

Enrollment.

Major

Biostatistics

Degrees awarded.

Time to Degree (Yrs) (and Headcount)

Masters & Ed.D

Grand Total

FTES Over Time

SFR Over Time

Fall 2018   Fall 2019   Fall 2020