

ANNUAL PROGRAM REPORT

College	Science
Department Program	Statistics and Biostatistics

B. Progress Toward Five-Year Review Planning Goals

Regarding 3.1 (Curriculum):

1. We continue to have discussions on what electives to offer for the MS Statistics students.
2. Since our conversion to semesters, all graduate courses are now standalone classes. We had a lot of issues related to graduate admissions this past Spring exacerbated by the sudden onset of the current pandemic. This resulted in many applications not being processed until summer and many applicants deferring admission to Spring, culminating in a slightly smaller incoming class than usual. We hope this to be a one-time issue and expect to be back to “normal” next year.
3. Development was done to create online versions of all courses, considering mandatory distance learning due to the pandemic.
4. The Statistics MS program now has a Data Science Concentration (effective Fall, 2018), which is more reflective of current demands. Curriculum development for this concentration has resulted in faculty pursuit of cloud-based and modern computation methods to best serve our students.

Regarding 3.3 (Students):

1. From Fall 2018 to Fall 2019, our graduate program shrunk by 24%. Surprisingly, despite the pandemic, we are on track to grow this year. The incoming Fall 2020 class is typical of most years and we have had much interest in Spring admissions which will likely create growth over last year.
2. At the graduate level, Python and Tableau were recently introduced to add to the existing software used, R and SAS, among others.
3. Now under semesters, we have continued to make it possible to complete our graduate programs by taking classes after 5:30pm.
4. Fundraising did not increase this year.

Regarding 3.4 (Faculty):

1. Assistant Professor Jiyoun Myung was hired and started Fall 2020. Assistant Professors Li Zou and Eric Fox were both granted retention, now entering their third year. Professor Eudey begins her third year of FERP in Fall, 2020. Professor Watnik continues to work as Associate Dean, Academic Programs and Services.
2. The Department received approval to hire two positions during the 2020-2021 academic year, one of which is a carry-over from a failed search last year. At this time, it is unclear if we will retain one or both of the searches due to the current budgetary climate.
3. The searches mentioned above are intended to help continue to develop and bolster our Data Science and Biostatistics curriculums, create more diversity in our graduate courses instructors, have a heavier presence on our undergraduate curriculum, and help continue to develop and improve all of our programs.
4. We currently have three lecturers on 3-year contracts and three lecturers on a 1-year contract.

Regarding 3.5 (Resources):

1. All tenure-track professors and lecturers received headsets and microphones to support distance learning.
2. Some tenure-track professors have received writeable mousepads with a stylus to support distance learning.
3. Our new ASC, Jamane Joseph, is continuing in her position to support the department. Our staffing level has remained the same.

C. Program Changes and Needs

Overview: Semester conversion and EO 1110 has had an incredible impact on our department. This has resulted in a significant increase in work for our staff, hiring TAs from our graduate student pool, and substantial revision of our curriculum at all levels to meet the needs of students. This has been exacerbated by the current pandemic, requiring us to teach at a distance.

Curriculum: With the implementation of EO 1110, the department now hires graduate students as TAs to teach newly developed support courses, beginning Fall 2018. With semester conversion, the department now offers a concentration in Data Science at both the undergraduate and graduate levels. Due to semester conversion, substantial changes are in place to all levels of the curriculum.

Students: Nothing to add.

Faculty: Nothing to add.

Staff: With the implementation of EO 1110, an already strained staff has had a significant increase in workload. Additional support is needed.

Resources: Our Department's programs would greatly benefit from a dedicated computer lab and/or funds so that every graduate student has his/her own laptop computer or accounts on cloud sites that would enable running and utilizing statistical software and solutions.

Assessment: The department continues to carefully monitor the assessment of its programs, proposing curricular and advising changes, as necessary.

Other: No significant program modifications were made last year.

II. SUMMARY OF ASSESSMENT

A. Program Learning Outcomes (PLO)

Students graduating with a MS in Statistics will be able to:

PLO 1 Apply statistical methodologies, including a) descriptive statistics and graphical displays, b) probability models for uncertainty, stochastic processes, and distribution theory, c) hypothesis testing and confidence intervals, d) ANOVA and regression models (including linear, and multiple linear) and analysis of residuals from models and trends at the Master's level.

PLO 2

Program Learning Outcome(S) Assessed

Year : 2019-2020	
<i>Which PLO(s) to assess</i>	PLO 6
<i>Is it aligned to an ILO?</i>	No
<i>History</i>	STAT 692 offered Fall and Spring semesters

B. Summary of Assessment Process

Instrument(s):

We implemented quantitative assessment of the results of our Comprehensive Examination by mapping all but one of the PLO's (#5) to specific course problems on the MS comprehensive exam. Rubrics were established for the outcomes and implemented.

It was decided that PLO #5 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). STAT 632 "Theory and Application of Regression" will be used for assessment of PLO #5. It should be noted that the assessment of PLO #5 is at the end of the first year of the program, while the other assessments are at the end of the program.

Sampling Procedure: We sample by gathering data from all students attempting to complete our capstone experience, both STAT 632 and the comprehensive exam.

Sample Characteristics: All MS Statistics students at, or near, to the end of their program were identified. -5(p)11(r)-3(eh)9(ens)7(i)-4(ve e004B11004800030Q37612 792 reW*nBT/F1

7. <i>Assessment Instrument</i>	Grades from exam
8. <i>How data will be reported</i>	Quantitative, proportions of students in each category from 1-5 (5 mastered)
9. <i>Responsible person(s)</i>	STAT 692 instructor, Assessment Rep
10. <i>Time (which semester(s))</i>	Fall and Spring

the B4 curriculum.

Appendix A

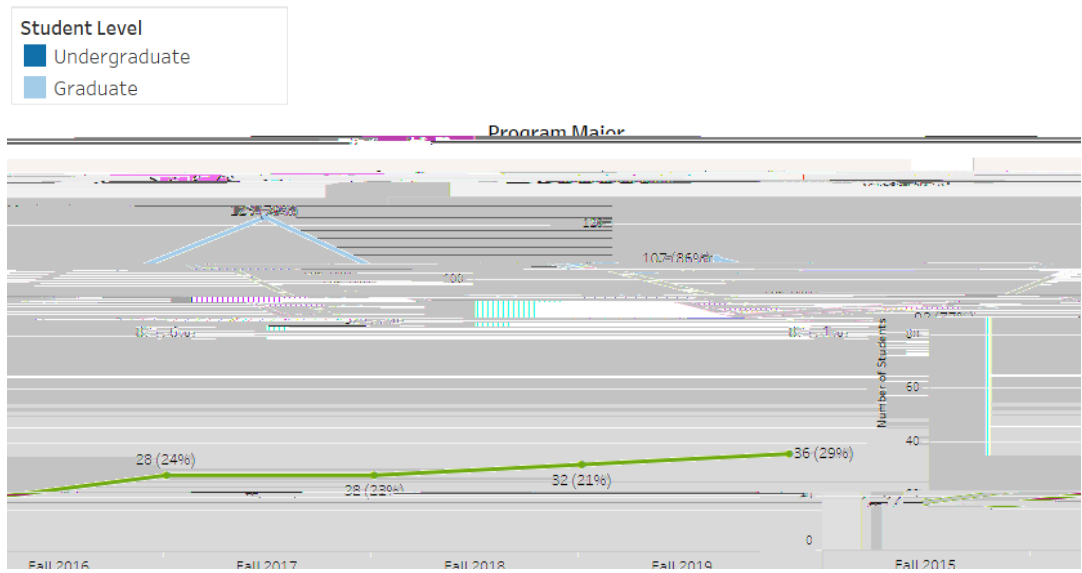
III A. Discussion of Trends & Reflections

Notable Trends:

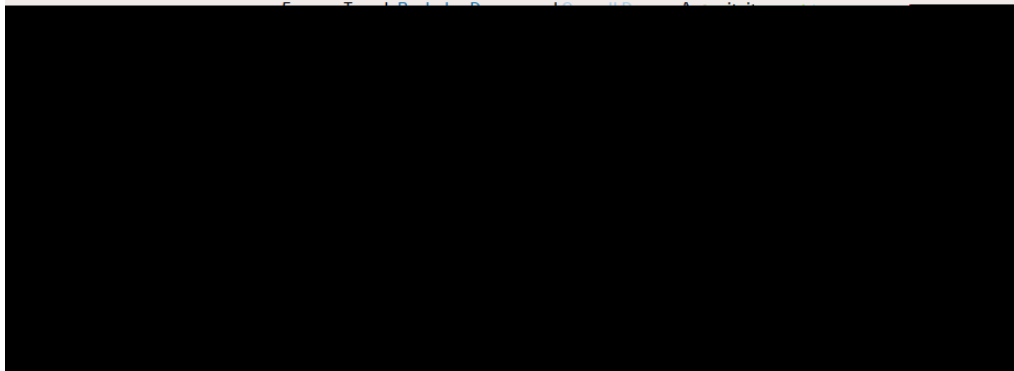
Tables of enrollment for Fall 2019 are broken down by race/ethnicity and sex.

Fall 2019	Statistics MS (%)
Asian	23 (26)
Black/African American	2 (2)
International	35 (40)
Latinx	12 (14)
Multiple Races	2 (2)
Unknown	7 (8)
White	6 (7)

Fall 2019	Statistics MS (%)
Female	42 (48)
Male	45 (52)



Degrees Conferred



ADD Coursework Data: Summer, Fall Term, or of Coursework

Instruction) and Student's side coursework

Fall 2019				Fall 2017				Fall 2018			
ETEC	ETEC	ETEC	College-Department	ETEC	ETEC	ETEC	ETEC	ETEC	ETEC	ETEC	ETEC
14.9	24.2	290.3	14.6	19.9	303.8	14.9	20.4	CHEM	359.9		

