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)?

- 1. Of 6 students assessed over three artifacts, the percentage of failures in the learning artifacts for SLO 1 was 6.3% (1 of 16 artifacts were failed). Failing grades were evenly dispersed between online asynchronous and in-person classes and are sometimes because of failure to submit work and not bad quality. Failing of artifacts is typically repeated by the same student and not dispersed amongst students. Courses were not taught at Madrid Campus.
- 2. Of 8 students assessed over three artifacts, the percentage of failures across the artifacts for SLO 2 was 4.1% (1 of 24 artifacts failed). Failing grades were evenly dispersed between online asynchronous and in-person classes. Failing grades were evenly dispersed between online asynchronous and in-person classes. Failing ardes were evenly dispersed between online asynchronous and in-person classes. Courses were not taught at Madrid Campus.
- 3. Of 6 students assessed over three artifacts, the percentage of failures across the artifacts for SLO 3 was 6.3% (1 of 16 artifacts failed). Failing grades were evenly dispersed between online asynchronous and in-person classes. Failing grades were evenly dispersed between online asynchronous and in-person classes and are sometimes because of failure to submit work and not bad quality. Courses were not taught at Madrid Campus.

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

These results show that student performance fulfills the learning outcomes outlined for each measured course. They point to basic levels of understanding in GIS and Remote sensing. Data show that students in the certificate program are performing well and attaining an understanding of the curriculum.

When and how did your program faculty share and discuss these results and findings from this cycle of assessment?

Dr. Sagan and Dr. Phillips shared the results of this year's assessment over Summer 2021, and discussed them face to face in the office. 23.9 mO g0 G[face )-3(t410>50211A015D019011001B5501986 0.T/F1 99 Tf1 0 0 1 460.06

Student learning outcomes Artifacts of student learning Evaluation process Evaluation tools (e.g., rubrics) Data collection methods Frequency of data collection

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

Continuing to expand our course offerings due to positive results with current offerings.

If no changes are being made, please explain why.

Because we have recently reformed the required course work for the GIS Degree as of 2020, these results show that the newly designed courses and requirements are fulfilling our goals of training to industry standards. We are moving on to focus on the development of new courses as the Geospatial Institute continues to grow.

What isone change your program has implemented in recent years as a result of assessment data?In 2020, GIS 5020 (Intermediate GIS) and GIS 5060 (Geospatial Methods) were closed and replaced by GIS 5030 (Geospatial Data Management) and GIS 5050 (Digital Image Processing).

How has this change/have these changes been assessed? This is the first year of assessment data collected on these changes, and on new assessment criteria.

What were the findings of the assessment?

This year's assessment shows initial positive results for course changes made in 2020.

How do you plan to (continue to) use this information moving forward?

This first year of assessments will be compared to further years for monitoring of student learning. Constant input is sought from Industry Professionals in GIS and Remote Sensing.