

2022-23 Program Review Template

Directions for Lead Writers: Please use this template to complete your Unit’s Program Review for this cycle. Instructions for submitting your completed template at the end of the spring semester will be provided in a few weeks. Click [here](#) to view our Glossary of Terms.

Other Resources:

[Program Review Handbook](#)

[Acronym Dictionary](#)

[Resource Link Library](#)

DEI Discussions: as part of your reflection with your unit, a workgroup has developed a Diversity, Equity, Inclusion, and Accessibility Discussion Guide. Please use this in your unit-level discussions as we move toward becoming more diverse, equitable, inclusive, and accessible through intentional and ongoing campus-wide reflections and revisions of policies and practices.

View the guide [here](#). Have reflections or feedback to share? Click [here](#).

<i>Program Information & Executive Summary</i>		
Prompt	Guidance	Program Response
Describe the successes and challenges your unit has faced since the last comprehensive review.		<p>SUCCESSSES</p> <p>Strong student success and retention history GIS continues to have relatively high success rates, with an average success rate of 73% from 2018-2022. Over the same time period, our retention rate is 85%.</p> <p>Serving Skills Builders GISG is a CTE program and attracts many people looking to make a career change, to be a more attractive job candidate with a GIS certification, or to brush up on skills to reenter the workforce. These “skills builders” push the average overall age of the GIS program older than many of Mesa’s programs.</p> <p>Student employment Over the past 6 years, GISG students continue to find employment in the regional (and beyond) GIS industries. Students are employed at SDG&E, PanGIS, Michael Baker International, Quartic, City of San</p>

Diego, County of San Diego, Helix Environmental, Dudek, among others. Students that completed the program in 2018 have received promotions.

Shift to remote learning

During the COVID remote learning period, faculty in the GISG program were well prepared to handle the shift to the online environment. Full-time and adjunct faculty participated in several professional learning activities related to course redesign including: HSI Stem Lab redesign grants for GISG 110, 130, and 131. Full-time faculty completed an @One course on Equity & Culturally Responsive Online Teaching. The lessons learned in these PL opportunities have been applied to both face-to-face and online modalities.

GISG worked with Work Based Learning and Career Center to shift offerings to prepare students to enter the job market. In Spring 2021, GISG offered a virtual career panel. Since the return to campus, we continue to offer Zoom options for guest speaker events to ensure a broader participation of our students.

Strong links to regional industry

GISG has many regional industry and workforce connections. This has allowed the program to reestablish and expand the Industry Advisory Committee. Our Committee works with faculty to identify emerging industry needs and advise on course sequencing, necessary skills, and new graduate expectations. They also offer much needed feedback on software and hardware acquisitions. Many committee members started as internship site supervisors. Several are Mesa graduates.

CHALLENGES

Persistent equity gaps

Despite the efforts of faculty, equity gaps persist. In our previous comprehensive review, Black/African American success rate was 25% and a -46% equity gap. As of this review, the Black/African American success rate for 2018-22 was 46.4% with an equity gap of 27.9%. While there is improvement, the equity gap is still significant.

		<p>In our previous comprehensive review Latinx success rate was 68% and equity gaps was -3%. Frustratingly, this review period's success rate was 68.4% but the equity gap increased to -7.3%.</p> <p>COVID While GIS was able to pivot to remote successfully, students' experience outside of the classroom had a dramatic impact on their ability to perform in the classroom. Some students confided in significant mental and emotional strain and were unable to complete coursework, despite instructor and Mesa support. Success rates remained steady in 2020/21 academic year, but this reversed in 2021/22. COVID also highlighted the technology barriers many of our students face. Rental laptops provided a much-needed support system for GIS students. Additional technology improvements, such as remote desktop/Azure labs.</p> <p>Students not completing program Many students enter the GIS program with a BA/BS or higher degree and are at Mesa to build skills (ranges from 44% to 24% of student population). Our student population 18-24 was at its highest in 2020/21 at 26%. Although this data is not tracked, many students are employed full time in a related career, but need training on the GIS software. Or, they may gain employment during the program and pause classes and do not return. This is one reason for lower awards. Additionally, some students do not complete the Work Experience, therefore cannot apply for graduation.</p>
<p>If applicable, describe any major curricular or service changes your unit has engaged in and the impact of those changes since the last comprehensive review.</p>	<p>Optional</p>	<p>Conversion of Certificate Performance to Certificate of Achievement The CA allows us to better track the number of degrees earned. Its increase of units to meet the requirements for Veteran's Education Benefits. Since this degree was added/updated, we've been able to track the number of students who earn a certificate, between 11 and 6 annually.</p> <p>Updating A.S. Degree</p>

		<p>In 2019 we added the requirement of GISG 104 to the major, this increased the units to 33-37. This introductory course is a gateway course into our program, but students weren't getting credit for the course in their degree path. We consistently have 2-5 students earn the A.S. each year.</p> <p>Degree Path GISG has worked with our department chair and dean to ensure we are maximizing student enrollment and students' educational goals.</p> <p>Updated SLOs for GISG 270 To align with Mesa's Work Experience program, GISG updated the SLOs of our WE course. The new SLOs reflect the purpose and objectives of WE courses and the experience in a GIS internship/volunteer/other position.</p> <p>Incorporated ZTC when possible GISG Instructors have worked hard to remove textbook costs in as many courses as possible. Textbooks have been eliminated in 3 courses in the certificate program. One course has a low-cost textbook. Faculty have identified several OER resource textbooks to provide additional information for students. Faculty are working to develop ZTC materials to replace the existing textbooks.</p>
<p>If applicable, describe the impact of any new resources (human, fiscal, etc.) on the unit and/or action plan implementation.</p>	<p>Optional</p>	<p>Mesa College/BARC has institutionalized funding for ESRI products that are required to run our courses. This eliminated the need for faculty to apply for Perkins funding annually. Additionally, the software can now be deployed across the campus regardless of discipline.</p> <p>Since the last comprehensive review, GIS has received funding to procure Android tablets, iPads, and GNSS receivers. These are used in multiple classes to support the teaching/learning of Web App development, GPS data collection, and ground truthing. We created a classroom library to alleviate textbook costs. This was popular from 2019-2020, but its use decreased due to COVID and technology changes. Books are still available for student use.</p>

		Through support of Perkins and other funding sources, faculty were able to complete online teaching professional learning. This training was essential during the COVID shift to remote learning.
Please confirm that the department has reviewed the Course Learning Outcomes listed in CurricuNet for each course and verify accuracy.	Select One	<input checked="" type="checkbox"/> Reviewed and accurate <input type="checkbox"/> Reviewed not accurate, update in progress <input type="checkbox"/> Reviewed not accurate, need support
Data Reflection		
Prompt	Guidance	Program Response
Describe the trends you see in your program/service area's data.	<p>Instructional Data you may consider: enrollment trends, course & program learning outcomes, Institutional Learning Outcomes, course success and retention rates, degree completion, transfer, employment, labor market analysis, other data relevant to your unit's work</p> <p>Service/Admin Area Data you may consider - service usage, service access, demand for services, student service/administrative unit outcomes, types of services offered and used, headcount of services usage, trends in reason for service use, other data relevant to your unit's work</p>	<p>Headcount in GIS has remained relatively steady since 2018, ranging from 160 to 176.</p> <p>GIS continues to have relatively high success rates, with an average success rate of 73% from 2018-2022. Our success rate for Online-Asynchronous courses is 69%. Over the same time period, our retention rate is 85%. The 2021/22 academic year brought a noticeable drop in success rates, from 75 to 69%. There is a drop in success rates across campus during this academic year as well, but not as large of a drop.</p> <p>From 2018-2022, there were 37 Certificates earned and 12 AS degrees. The number of degrees dipped in 2021, which we believe is a reflection of the COVID-19 pandemic. While GIS was able to pivot to remote learning, some students struggled with the shift. Additionally, internships were a challenge as it took some time for companies to open remote internships or for hybrid positions to open.</p> <p>GIS continues to have successful employment of graduates and current students, although this data is difficult to track.</p>
Describe any equity gaps you see in these data. Are there	Equity gaps refer to disparities in educational outcomes and student success metrics across	There are several equity challenges that remain in the GIS program. Ethnicity data

<p>differences and/or patterns observed by demographics (e.g. race/ethnicity, gender, age, etc.)?</p>	<p>race/ethnicity, socioeconomic status, gender, and other demographic traits and intersectionalities.</p>	<ul style="list-style-type: none"> - Black/African American students continue to have a low success rate of 45.8% with a -29% equity gap. The valid enrollments of this group of students is 31 over the last 6 years. This makes it challenging to dig into individual courses and sections to identify places for change. This is disappointing after the improvements to 54% success rates during the Covid period. - Latinx students have a success rate of 68% and an equity gap of -6.6%. While this success rate is still below the Mesa average, this is an increase from the previous 65% average. <p>Age data</p> <ul style="list-style-type: none"> - 18-24 year old students have a success rate of 69.1% and an equity gap of -5.7%. It appears that in GISG 104 and 110 these students have success rates over 70%, but starting in GISG 111 the success rates (and enrollments) fall. This could be due to these students transferring successfully or the approachability of the material and time of classes. This is an area that needs further investigation. <p>First generation status</p> <ul style="list-style-type: none"> - First generation students have a success rate of 63.5% and an equity gap of -11.8%.
<p>Describe the discussion(s) that took place about the unit's learning outcomes assessment data.</p>	<p>Department Outcomes Coordinators (DOCs) facilitate a department wide discussion on learning outcomes data each year during "Outcomes Across Campus". DOC's may helpful in supporting this section.</p>	<p>Discuss outcomes at semester department meetings. GISG and Digital Technology continue to stress the importance of project-based assessments of outcomes. We discussed the need to add more scaffolding/guided exercises before students get to their independent work. Another focus is on decreasing our reliance on traditional textbooks and an interest in using OER or designing our own projects/assignments. We generally meet our benchmark of 70% students passing/earning passing grade on assignment, etc. We are all continually updating our assignments to meet industry needs, and better prepare students.</p> <p>We have reviewed and updated our outcomes when necessary.</p>

Practice Reflection

Prompt	Guidance	Program Response
Describe current practices your unit has engaged in that you believe impact the above data trends and equity gaps.	Items to consider: new actions specifically focused on issues of equity, major curricular changes, professional learning, policy or process changes, data-informed unit dialogue, community outreach.	<ul style="list-style-type: none"> - The full-time faculty continues to seek out additional professional learning on- and off- campus related to online teaching (Humanizing STEM, Equity & culturally responsive online teaching, Assess). Many of these trainings can be applied to face-to-face modalities as well. Adjunct faculty are offered the same opportunities. - Faculty continues to work with the department chair and dean to improve course scheduling and offerings to maximize enrollments. - GISG seeks input from Industry Advisory Committee on community outreach and supporting non-traditional students. Faculty attend regional meetings and industry meetings to promote the program, and support students attending and presenting at these meetings. - GISG faculty are involved in campus wide discussions on Azure labs/remote desktop to allow for students to access software from their home devices. - Faculty seek out a diverse representation of GIS professionals for guest lecturers and advisory committee members.
What other factors (internal or external) might also impact the above data trends and equity gaps?	Items to consider: legislative changes, fiscal changes, staffing changes, recruitment, hiring, and retention practices.	GISG saw some minor gains in student success, equity gaps, and online modality performance. However, these seem to be erased by the 2021-22 academic year. The cause for this is unknown, but may be impacted by the full-time faculty being on maternity leave. More likely students were experiencing new challenges as the remote learning period was coming to an end and obligations outside of the classroom changed.
<i>Unit Goals and Action Plans</i>		
Prompt	Guidance	Program Response
Unit Goals	Goals should connect to Data and Practice Reflections. Goals should be Specific, Measurable, Attainable, Relevant, and Time-bound.	<p>Goal 1: Update curriculum and coursework with the guidance of the advisory committee to reflect industry trends and needs to prepare students for the workforce/transfer and facilitate degree completion.</p> <p>Goal 2: Develop and implement plans to address technology equity gaps and ensure student success, particularly among</p>

		disproportionality impacted students. Goal 3: Develop and deploy zero-cost culturally-relevant lab experiences across the program to address equity gap.
Mesa2030 Roadmap Strategic Objective (SO) Alignment	Review Mesa2030 and the Roadmap to Mesa2030 , only link to SO's that your goal clearly and intentionally is meant to contribute to, each goal should link to 1 or more SOs	Goal 1: SO: Completion SO: Pathways and Partnerships Goal 2: SO: Pathways and Partnerships SO: Completion Goal 3: SO: Scholarship SO: Completion
Identify specific actions your program/service area will engage in to accomplish this goal.	Examples may include: policy or practice changes; unit initiatives, curricular changes, etc.	Goal 1 1. Evaluate course outlines of record to identify areas that can be improved. 2. Evaluate annually course offerings and scheduling of classes, assess time to completion. Goal 2 1. Work with CTS and ICT faculty to deploy the Azure cloud environment to reduce the need for students to have high-end hardware outside of the classroom 2. Evaluate Hy-flex course modality options and its effectiveness for GIS. Goal 3 1. Create lab materials for that incorporate more programming in open-source GIS software. 2. Assess the effectiveness of materials through student surveys on experiences and review of student success data.
Does this Action Plan require resources	if yes, complete resource request form	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Lead Writer and Manager Information		

Lead writer Name(s)	Rachel Russell
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Submission Date of Program Review Draft to Manager for feedback	
Submission Date of Program Review Final Draft to Office of Institutional Effectiveness	5/31/2023