Status: Reviewed

Entry #: 239

Date Submitted: 9/14/2020 1:29 PM

OVERVIEW OF PROGRAM REVIEW AND PLANNING FOR INSTRUCTIONAL PROGRAMS

Program Review is about documenting the plans you have for improving student success in your program and sharing that information with the community. Through the review of and reflection on key program elements, program review and planning identifies program strengths as well as strategies necessary to improve the academic discipline, program, or service to support student success. With our new Guided Pathways plan, this review becomes even more crucial for the success of our students and college.

We are using the Strengths, Opportunities, Aspirations, Results (SOAR) strategic planning technique to help us focus on our current strengths and opportunities, create a vision of future aspirations, and consider the results of this approach.

BASIC PROGRAM INFORMATION

Academic Year 2020-2021

Department NameEarth, Space, and Environmental Sciences

Department Chair Name

Sean Figg

Website address for your discipline

https://www2.palomar.edu/pages/geography/

Are you completing a comprehensive or annual PRP?

Annual

Discipline NameGeography (GEOG)

Division Name

Mathematics, Science and Engineering

Discipline Mission statement

The Geography Program encourages the discovery, application, and dissemination of geographical knowledge concerning Earth's physical and human environments in order to promote scientific thought, global citizenship, and environmental stewardship. We offer a variety of certificates and associate's degrees to serve students with diverse academic and career objectives. Our geography courses are part of the AA-T in geography, and also satisfy requirements in CSUSM's environmental studies and liberal studies majors. We also offer certificates in environmental studies, geographic information systems and drone technology, and integrated service-learning and internship components into our programs to prepare students for gainful employment.

(click here for information on how to create a mission statement)

Does your discipline have at least one degree or certificate associated with it?

Yes

Are any of your programs TOP coded as vocational (CTE/CE)? Yes

- List all degrees and certificates offered within this discipline.
- -Geographic Information Systems (CP)
- -Advanced Geographic Information Systems (AS, CA)
- -Environmental Studies (CA)
- -Geography (AA-T)
- -Drone Operations (CA)

Please list the names and positions of everyone who helped to complete this document.

- -Wing Cheung (Professor, Geography)
- -Catherine Jain (Professor, Geography)
- -Steve Crook (Assistant Professor, Geography)

Use the link to provided to help answer the staffing questions below. This form requires a login and password to access. Please use your Palomar email and password to log in.

Link: Permanent Employees Staff Count

Full-time Faculty (total number of FT faculty in your discipline)

3

Full-time Faculty (FTEF)

Part-time faculty (FTEF)

1.80

2.17

Classified and other permanent staff positions that support this discipline

ADA 10%; Instructional Assistant IV 10%

Additional hourly staff that support this discipline and/or department

PROGRAM INFORMATION

In this section you are asked to consider your programs, their learning outcomes, the annual number of completions, goals for completions and enrollment and efficiency trends.

PROGRAM LEARNING OUTCOMES

Begin this section by reviewing the Program Review reports for programs and courses in Nuventive Improve (TracDat). All active course and program learning outcomes should be systematically assessed over a 3-year cycle. First, look at program learning outcomes.

- Program = Leads to a degree or certificate
- Discipline = A group of courses within a discipline

How well do your program's learning outcomes communicate the scope and depth of the degree/certificate offered?

We believe that our program learning outcomes are comprehensive and communicate the scope and depths of our degrees and certificates. They are developed in consultation with our counterparts at key transfer institutions for our students (i.e. SDSU, CSUSM), or with industry partners who serve on our GIS and Drone Technology advisory councils.

How do they align with employer and transfer expectations?

We are responsive to the feedback provided by the GIS and Drone Technology advisory councils and our community service learning partners. We update our articulation agreements and program requirements in consultation with our counterparts at SDSU, CSUSM, as well as our own articulation officer.

Describe your program's plan for assessing program learning outcomes.

We will assess our program learning outcomes over a 3-year cycle by reviewing student performance in our key transfer classes and/or student performance in professional internships. We will also speak with employers/internship supervisors and our counterparts at transfer institutions in order to gather anecdote evidence to complement our quantitative assessments.

^{*}Programs will be able to complete program completion and outcome questions.

Summarize the major findings of your program outcomes assessments.

Students have met or exceeded all of the program outcomes in our discipline. Specifically, the percentage of Geography students who successfully transferred exceeded our target, and 100% of our industry partners agreed that their GIS internship students were technically prepared for their internships.

PROGRAM COMPLETIONS

Student success is at the core of what we do in assisting students in achieving their goals.

The Chancellor's Office Vision for Success stresses the importance of Program Completion as a major goal for our students. In addition, transfer and career readiness are key components of Palomar College's mission statement. This year, our funding formula has also changed reflecting this emphasis, providing additional funding as a function of the number of completions.

In this section we will identify a program standard and a stretch goal (what you would like to move toward) for program completions.

The standards represent the lowest number of program completions deemed acceptable by the College. In other words, if you were to notice a drop below the set standard, you would seek further information to examine why this occurred and strategies to increase completions.

In this section we will identify a program standard and a stretch goal (what you would like to move toward) for programs.

List the number of completions for each degree/certificate for the previous year.

6 AA/AS degrees and 22 certificates were completed by students in the Geography discipline in the previous year.

Have your program completions Increased, decreased, or stayed the same over the last 5 years? Increased

What factors have influenced your completion trends?

The economy has the biggest impact on our completion trend. Since most of our degree and certificate completion came from the technical/vocational sub-disciplines of GIS, we have noticed that as the economy improves, many students are able to secure employment after taking a few classes without even completing the degree or the certificate. The growing demand of GIS knowledge worker is evident in our GIS Internship Program, where we have over 20 internship opportunities in a variety of industries available to students. Consequently, we believe that there is a negative correlation between our program completion rate and level of industry demand for our students. Nonetheless, our program completion rate from the last four years has been consistent.

We believe that if the faculty has more up-to-date rosters of the students majoring in their respective programs, it will enable faculty to remind students to apply for graduation prior to transfer, hence boosting program completion rates. The college may want to consider automatically granting students their certificate and/or degree based on completion of the requirements, and not requiring an application for graduation.

Program Information Summary

Consider your program outcome assessments, completions, and enrollment/efficiency trends, as well as other internal and external factors.

How have these factors contributed to the success of your program(s)?

By having curricula that are responsive to workforce needs, and programs that seamlessly transfer to our four-year partners, we are able to attract and graduate a consistent number of majors.

How have these factors presented challenges for your program(s)?

Our program completion rate may be affected by the lack of up-to-date information about our majors and the cumbersome graduation application process.

The Chancellor's Office Vision for Success stresses the importance of reducing equity gaps through faster improvements of underrepresented groups.

ACCJC also requires that colleges establish institutional and program level standards in the area of success rates. These standards represent the lowest success rate deemed acceptable by the College. In other words, if you were to notice a drop below the rate, you would seek further information to examine why the drop occurred and strategies to address the rate.

Click on this link to review the course success rates (A, B, C, or Credit) for your discipline.

In this section we will identify a course success rate standards and a stretch goal (what you would like to move toward) for programs.

Course Success Rates by gender, age, ethnicity, special population, location, and modality (You can access the Student Equity Plan on the SSEC website https://www2.palomar.edu/pages/ssec/)

COURSE INFORMATION

COURSE SUCCESS AND RETENTION

What is your program's standard for Discipline COURSE Success Rate? 70.0%

Why did you choose this standard?

There is no legitimate reason to deviate from the college standard.

What is your stretch goal for course success rates? 70.0%

How did you decide upon the goal?

We have no legitimate reason to change our goal at this time.

Age: Why do you think age differences exist? What do you need to help close the gap?

The 50 and over group for the entire discipline of Geography has a success rate of 80%. However, when we distinguish between GIS and non-GIS courses, the 50 and over group has a much higher success rate in GIS courses compared to non-GIS courses. This difference can be partly attributed to the limited number of older students in non-GIS courses. Students in the 50 and over age group are likely more serious about their education and have more life experience to draw from, so this is not necessarily surprising nor anything that needs to be fixed. Success rates for other age groups are still good.

Ethnicity: Why do you think ethnicity differences exist? What do you need to help close the gap?

Long-standing issues such as systemic racism, unequal access to quality K-12 education, language barriers, need to balance work/education time constraints, etc. are likely still at play in the varying success rates between ethnic groups. Increasing the staffing at support service departments such as S.T.A.R. Tutoring might help to close this gap. Faculty must remain vigilant against implicit bias in their learning environment and curriculum.

COURSE LEARNING OUTCOMES

How have you improved course-level assessment methods since the last PRP?

Our last PRP was completed fall semester 2019. SLO assessment methods have remained the same since then.

Summarize the major findings of your course outcomes assessments.

Students are able to successfully pass the course assessments with success rates above 70%. After the assessment results have been compiled, the geography instructors meet to brainstorm best practices, share proven strategies for retention and engagement, and consider program-wide changes about pedagogy as a result of this reflection. By sharing the ways in which various instructors teach each SLO content area, there is an effort to ensure quality and consistency of instruction. In fact, some of these successful teaching techniques have been adopted by other instructors. In this way, the SLO assessments have improved our courses and program.

This section is intentionally blank for annual PRPs. Please click "Next" to continue.

This section is intentionally blank for annual PRPs. Please click "Next" to continue.

CAREER AND LABOR MARKET DATA

The Chancellor's Office Vision for Success stresses the importance of increasing the percent of exiting students who report being employed in their field of study. It is important for us to consider how <u>all</u> of our programs connect to future careers.

Go to this website https://www.onetonline.org/ and enter your discipline in the bubble on the top right for ideas about potential occupations. Click on an example to see more detail.

The following websites are for CTE related data:

- Centers of Excellence (many other data resources besides supply and demand) Password: GetLMI
- LaunchBoard
- LaunchBoard Resource Library
- Chancellor's Office Data Mart
- Career Coach-San Diego Workforce Partnership
- EDD Labor Market Info
- Career One Stop

What kinds of careers are available for people who complete your programs (and/or transfer)? (Refer to link above) Are there any new or emerging careers and if so how would the new or emerging careers impact your future planning?

The diversity of programs within our discipline prepare students for a variety of careers, such as:

- -Surveying and Mapping Technicians
- -Cartographers & Photogrammetrists
- -Geographers
- -Forest and Conservation Technicians
- -Life, Physical, and Social Science Technicians, All Other
- -Avionics Technicians
- -Aerospace Engineering and Operations Technicians

According to data provided by the Centers of Excellence for the San Diego region, all of the occupations (with the exception of Cartographers & Photogrammetrists and Geographers) listed above typically require a Certificate or Associate's Degree for employment. In order to ensure that our students will eventually meet the labor demand for Cartographers & Photogrammetrists and Geographers, we have been exploring transfer opportunities for our students into Bachelor's degree programs in those fields.

In anticipation of the growing demand for unmanned aircraft system (UAS) operators, we have regularly surveyed industry professionals from local/county government, public safety agencies, and private companies. We have also joined the Federal Aviation Administration's new UAS Collegiate Training Initiative. We believe that the growing UAS industry will create new opportunities for our students, but will also require us to plan to procure additional equipment, staff, and facilities in order to train new and existing students.

What are the associated knowledge, skills, abilities (KSA's) needed for the occupations listed above? (click examples in the link above to get ideas)

According to O*NET OnLine (https://www.onetonline.org/), we have listed some of the recurring knowledge, skills, and abilities identified for the occupations that are associated with our discipline:

KNOWLEDGE

- -Geography
- -Customer and Personal Service
- -Computer and Electronics
- -Engineering and Technology
- -Production and Processing
- -English Language
- -Mathematics
- -Design
- -Administration and Management
- -Mechanical
- -Law and Government

SKILLS

- -Reading Comprehension
- -Critical Thinking
- -Troubleshooting
- -Writing
- -Complex Problem Solving
- -Active Listening
- -Active Learning
- -Speaking
- -Judgement and Decision Making
- -Monitoring
- -Coordination
- -Repairing
- -Equipment Maintenance

ABILITIES

- -Inductive Reasoning
- -Near Vision
- -Oral Comprehension
- -Deductive Reasoning
- -Written Comprehension
- -Information Ordering
- -Problem Sensitivity

How does your program help students build these KSA's?

Through a combination of lectures, lab exercises, writing and reading assignments, field trips, field courses, service learning projects, and internships, we believe that our courses and programs encourage students to acquire and/or enhance the KSA's listed above. For example, our GIS service learning projects and internships require students to apply their knowledge in Geography, customer service, computer, technology, English language, mathematics, design, and management in real-world settings. They also enhance students' skills in writing, reading comprehension, critical thinking, troubleshooting, speaking, coordination, as well as judgment, and decision making.

Work Based Learning

Applied and work-based learning (WBL) allows students to apply classroom content in professional settings while gaining real-word experience. WBL exists on a continuum that reflects the progress of experiences from awareness-building to training. Students often cycle back through the continuum many times throughout college and throughout their career. Faculty play a critical role in ensuring these experiences are embedded into curriculum and support learning.

Have you incorporated work based learning (work experience, internships, and/or service learning) into your program? Yes

What have you done to integrate work-based learning?

We give our students the option of completing service learning projects as a part of their class assignments. We are also requiring students in the GIS and Drone Technology programs to complete an internship in order to get their certificate or degree.

How does your work-based learning help your students learn how to do some of the tasks associated with the potential occupations? Our survey of students shows that work-based learning such as service learning and internships have enhanced our students' troubleshooting and technical abilities, as well as their workplace competencies such as teamwork, reliability, and professionalism.

How do you engage with the community to keep them apprised of opportunities in your program?

We have regular advisory committee meetings with GIS and Drone Technology industry partners. We also attend and present at professional conferences in order to recruit new internship and service learning partners.

What is the regional three-year projected occupational growth for your program(s)?

According to data provided by the Centers of Excellence for the San Diego region, the labor demand for all of the occupations associated with our discipline will experience at least a 5% growth between 2017 and 2022:

- -Surveying and Mapping Technicians +5.8%
- -Cartographers and Photogrammetrists +6.4%
- -Geographers +12.3%
- -Forest and Conservation Technicians +7.3%
- -Life, Physical, and Social Science Technicians, All Other +5.3%
- -Avionics Technicians +5.6%
- -Aerospace Engineering and Operations Technicians +11.0%

What is being done at the program level to assist students with job placement and workforce preparedness?

Aside from advisory meetings, professional conferences, service-learning partnerships, we also connect with employers to identify potential job opportunities by participating in public outreach activities on-campus, off-campus, and virtually. In addition, we maintain a database of internship opportunities, and our internship coordinator reviews each student's resume and attempt to match students with internships that seem to be a good fit. We also maintain a job database for our students that is updated at least once a month.

When was your program's last advisory meeting held? What significant information was learned from that meeting? GIS 4/23/2020 (held virtually over Zoom)

-The short-term outlook of the GIS job market will be mixed. Many public agencies and local governments may implement hiring freezes due to shortfall in taxes and revenues. In the private sector, there has been an increase in GIS contracts in the areas of environmental management and utilities. In the long-term, the demand for GIS professionals is expected to increase as things return to normal.

Drone Technology 7/16/2020 (held virtually over Zoom)

-There is a need to expose students to diverse aircrafts and sensors. In particular, as the federal government imposes its ban on Chinese manufactured drones (e.g. DJI) for government and contracted projects, students need to learn to work with other platforms in order to remain competitive in the job market.

What are the San Diego County/Imperial County Job Openings?

According to data provided by the Centers of Excellence for the San Diego region, the openings (new + replacements) for all of the occupations associated with our discipline between 2017 and 2022 are as follows:

- -Surveying and Mapping Technicians +317
- -Cartographers and Photogrammetrists +69
- -Geographers +9
- -Forest and Conservation Technicians +234
- -Life, Physical, and Social Science Technicians, All Other +661
- -Avionics Technicians +444
- -Aerospace Engineering and Operations Technicians +413

Program Goals

In the previous sections, you identified opportunities for improvement. Using these opportunities, develop 3-year SMART goals for your department. Goals should be Specific, Measurable, Attainable, Relevant, Time-Specific. Ensure your goals align with the mission of your department and/or the College's strategic plan.

Please list all discipline goals for this three-year planning cycle. Click here for previous PRPs and goal information.

Goals

Goal 1

Brief Description

Develop new GIS curriculum in response to Advisory Committee Recommendations

Is this a new or existing goal? Goal Status
Existing Ongoing

How will you complete this goal?

Pilot new curriculum, then integrate curriculum into existing GIS program.

Outcome(s) expected (qualitative/quantitative)

One new course is under development with an expected enrollment of 30 students. The development of this course is taking longer than expected due to the inability to test the curriculum on-campus due to COVID-19.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways? The department aims to be responsive to the advisory committee and the needs of local employers.

Expected Goal Completion Date

2/24/2021

Goal 2

Brief Description

Align department offerings with those of CSUSM as they expand their geography program

Is this a new or existing goal? Goal Status Existing Ongoing

How will you complete this goal?

We have reached out to meet with CSUSM geographers to discuss the direction of their geography program and how we can better align our programs and course offerings with the substantial changes to their growing program. The Geography B.A. program at CSUSM has been formally approved, but we are waiting for our CSUSM counterparts to finalize their major requirements.

Outcome(s) expected (qualitative/quantitative)

We will likely realign our course offerings, and consider the number of ENVS 100 vs. GEOG 100 sections that we should offer.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways? Through these meetings and through considering their impact on our own program and courses we will be able to prepare our students for transfer more efficiently.

Expected Goal Completion Date

9/1/2021

Goal 3

Goal Status

Completed

Ongoing

Brief Description

Adopt no and low cost textbooks for certain courses in the geography program

Is this a new or existing goal?

Existing

How will you complete this goal?

The two full-time faculty members teaching within the GIS program have determined that it is would be feasible to convert our courses to no and low cost textbooks using self-produced and publicly available materials. Additionally, GEOG 103 is being considered for low/no cost textbooks.

Outcome(s) expected (qualitative/quantitative)

Three core GIS courses have switched to no and/or low cost text books since 2019-2020. We are still working on adopting low/no cost textbooks for GEOG 103.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways? We hope to improve access to programs and services for our diverse student body, making it easier for them to complete their studies with a decreased financial burden.

Expected Goal Completion Date

5/31/2021

Goal 4

Brief Description

ASU Transfer Pathway

Is this a new or existing goal? Existing Completed

How will you complete this goal?

Work with ASU representatives and Palomar articulation officer to establish transfer pathway into ASU's online geography and GIS bachelor's degree programs.

Outcome(s) expected (qualitative/quantitative)

Geography majors at Palomar College will elect to transfer into ASU's program, providing a new alternative to our existing transfer pathways.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways? Administrators at Palomar College have elected to pursue this relationship with ASU.

Expected Goal Completion Date

10/1/2019

Goal 5

Brief Description

Convert Certificates of Proficiency to Certificates of Achievement

Goal Status

Completed

Ongoing

Is this a new or existing goal?

Existing

How will you complete this goal?

We will follow the procedures set forth by our curriculum committee and the state chancellor's office.

Outcome(s) expected (qualitative/quantitative)

The college will earn apportionment for the C.A. degrees and students will be eligible for Financial Aid. We have successfully converted the C.P. in Environmental Studies to a C.A. We may convert the C.P. in GIS to a C.A. after consulting with our GIS industry advisory council.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways? This change is in line with the college's goal of fiscal stewardship.

Expected Goal Completion Date

5/29/2021

Goal 6

Brief Description

Credit for Prior Learning for GIS classes

Is this a new or existing goal?

Existing

Completed

How will you complete this goal?

We will work with the credit for prior learning team to explore ways to grant credit to students with prior work experience, military experience, or other relevant experience related to GIS.

Outcome(s) expected (qualitative/quantitative)

This will resolve the long-standing issue of students receiving waivers for required classes but no associated units.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?

This change will allow students to move through our programs more quickly, possibly increasing completion rates as well.

Expected Goal Completion Date

5/29/2020

Goal 7

Brief Description

GEOG 125: Geography of California

Is this a new or existing goal? Goal Status

Existing Ongoing

How will you complete this goal?

Begin developing curriculum for this established course that has not been taught in several years.

Outcome(s) expected (qualitative/quantitative)

Potentially schedule this course for fall 2021.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways? This class is part of our established AA-T program in geography.

Expected Goal Completion Date

8/1/2021

Goal 8

Brief Description

Development of GEOG 195: California Naturalist Field Course

Is this a new or existing goal?

New

How will you complete this goal?

Working in conjunction with University of CA-Agriculture and Natural Resources (UCANR) to develop California Naturalist certificate course.

Outcome(s) expected (qualitative/quantitative)

To be taught fast track 2, Spring 2021.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways? GEOG 195 is a requirement in the GEOG AA-T.

Expected Goal Completion Date

5/21/2021

Goal 9

Brief Description

Development of new noncredit courses and programs in GIS for educators

Is this a new or existing goal?

New

How will you complete this goal?

Working with the NSF-funded National GeoTech Center to prepare secondary school and college teachers to teach geospatial technologies.

Outcome(s) expected (qualitative/quantitative)

To be offered in fall 2021.

How does this goal align with your department mission statement, the college strategic plan, and /or Guided Pathways?

This will increase the number of students and educators interested in GIS applications and career pathways.

Expected Goal Completion Date

5/31/2021

RESOURCES

Congratulations! You are nearing completion. In this section, you will consider the resources you need to implement your three-year program review plan and/or address any findings from your assessment of your discipline.

The section is organized into the following four parts:

PART 1: Staffing Needs (Faculty and Additional Staff)

PART 2: Budget Review

PART 3: Technology and Facilities Needs

PART 4: One Time Request for Other Needs (NonTechnology Equipment, Supplies, Operating Expenses, Travel)

PART 1: STAFFING NEEDS

Requests for faculty will follow the prioritization process currently in place in IPC, and the IPC SubCommittee. Requests for new staff positions will be prioritized at the division level and reviewed at Exec.

Are you requesting additional full-time faculty?No

NOTE: If you are requesting full-time faculty, you must go back to the Labor Market section of the form to complete that section. It is required when requesting additional faculty positions.

Are you requesting new Classified, CAST or AA positions? No

PART 2: BUDGET REVIEW

Review your Budget/Expenditure reports for 2018, 2019, 2020. Consider your three-year PRP plan.

Click on the link below to access directions to the Available Budget Report to complete this section.

How to Request the Available Budget Report

Reflecting on your three-year PRP plan, are there any budget considerations you would like your dean/supervisor to be aware of for the upcoming year?

NOTE: PARTS 3 and 4 - TECHNOLOGY, FACILITIES AND OTHER NEEDS

This year the College is implementing two new processes related to resource needs coming from the PRP process.

1. One-Time Fund Requests. The college is implementing a process for prioritizing and allocating funds for one-time needs/requests tied to Program Review and Planning. Prioritization will take place through participatory governance in planning councils and the Budget Committee. Then, a recommendation will be made to Exec for funding of request utilizing various funding sources.

For more information about funding sources available, see IELM BLOCK GRANT, LOTTERY, PERKINS AND STRONG WORKFORCE GUIDELINES.

Consider submitting one-time requests only if you have verified that you cannot fund the request using your general discretionary funds or other funds.

2. Technology and Facilities Review. From now on, ALL requests for technology will go through an institutional review process. If you request technology here, you will see a description of the process below.

PART 3: TECHNOLOGY AND FACILITIES NEEDS

Will you be requesting any technology (hardware/software) this upcoming year?

Do you have resource needs that require physical space or modification to physical space?

No

PART 4: OTHER ONE-TIME NEEDS

For more information about funding sources available, see IELM BLOCK GRANT, LOTTERY, PERKINS AND STRONG WORKFORCE GUIDELINES. Please check with your department chair on the availability for this cycle.

Do you have one-time requests for other items (e.g., Non-Technology Equipment, Supplies, Operating Expenses, Travel) that your budget or other funding sources will NOT cover?

No

I confirm that the Program Review is complete and ready to be submitted.

Yes

Enter your email address to receive a copy of the PRP to keep for your records.

wcheung@palomar.edu

Review

Chair Review

Chair Comments

On the basic information page, the full-time FTEF should be 1.80 and the part-time FTEF 2.17.

Chair NameChair Sign DateSean Figg10/19/2020

Dean Review

Strengths and successes of the discipline as evidenced by the data and analysis:

The program has done an excellent job in collaborating with advisory councils and industry partners. These collaborations have led to successful course developments where students have been able to acquire employment prior to completing degrees/certificates. Low and no/cost textbooks are being developed to increase access to students. The work based learning projects are aligned with industry standards and success/retention rates are on the rise. Overall the program has impressively collaborated to provide students advanced academic and co-curricular opportunities that have led to job placement. The program has a futuristic and thoughtful approach, as illustrated by its goals, that continue to develop curriculum and expand employment resources for students.

Areas of Concern, if any:

There may not be sufficient facilities to support this rapidly expanding program in the future and the increase in work based learning projects may require additional classified support for placement in these activities.

Recommendations for improvement:

I would recommend that the program begin to identify needs for facilities, technology, and staffing in preparation for student growth and program expansion.

Dean NameDean Sign DatePatricia Menchaca11/4/2020

IPC Review

Strengths and successes of the discipline as evidenced by the data and analysis:

Areas of Concern, if any:

Recommendations for improvement:

IPC Reviewer(s)

IPC Review Date

Vice President Review

Strengths and successes of the discipline as evidenced by the data and analysis:

good work with advisory council to inform learning outcomes; increased completions; to use your words, curricula that are responsive to workforce needs and programs that seamlessly transfer; intentional use of SLOs to effect changes to strategies and pedagogy; WBL

Areas of Concern, if any:

1. course success standard -- why not challenge the discipline to improve upon this?

Recommendations for improvement:

- 1. have dean bring request for lists of students in majors to VPI 1:1 discussion
- 2. any interest in participating in dual enrollment?

Vice President Name Shayla Sivert **Vice President Sign Date**

1/3/2021