Program Review, Analysis, and Planning

Department Name: Computer Science

Data Analysis

Based on data provided by ORPIE:

1. Are your department's average FTES/FTEF and average enrollment per section lower, higher, or similar to college-wide average FTES/FTEF and average enrollment per section? Why? (150 words limit)

Computer Science average is at 35.6 which is higher than the GWC total of 33 for 2017-2018. These numbers support the no change in enrollment that Computer Science program is experiencing. Enrollment per section is unchanged from the previous cycle at 33.3 which is lower than GWC reported 37 for 2017-2018. One reason for lower numbers is the class size for majority of sections limited to 31 due to computer laboratory stations constraint.

2. What factors have contributed to your trends in enrollment? If your department is experiencing an enrollment decline, what is your department's plan to address the enrollment decline? (150 words limit)

Overall enrollment is at 1300 which is a considerable increase from the previous cycle. The one decisive factor is the addition of one more full time faculty. For 2017-2018 there is a slight decline in enrollment due to general trend of enrollment created by the improved economy.

3. Looking at the demographic of your student population, what strategies has your department considered or implemented to be more inclusive of the distinct student populations you serve? (250 words limit)

The Computer Science program serves mostly Asian, White and Hispanic predominantly males. The percentage of American Indian, Native Hawaiian/Pacific Islander, and African American students is much lower than the college average. For instance, only 29.2% of students in 2017-2018 were female, 0.1% were American Indian, 0.2% were Native Hawaiian/Pacific Islander, and 1.4% were African American. Like other programs on campus, the Computer Science program has faced challenges in diversifying its student population. We will continue outreach to all students on campus to try and get more interested in computing related careers. We will also try to bring employers on campus for informational sessions to dispel some of the myths students may have about careers in computer related fields.

4. How does your program course success rate compare to GWC's overall course success rate? If your course success rates are in decline or below the college average, what is your department plan to address the success rate? (250 words limit)

Computer Science success rate has an upward 3-year trend with the 2017-2017 rate at the same level with the GWC at 72%. Computer Science faculty will continue to monitor student progress in each course and identify students early on in the semester who are falling behind. We will work with the counseling department to identify students with risk factors associated with failing a course so faculty can focus especially on those students. Also, we will offer students at risk of failure extra academic support in the program. If we have sufficient resources, we would like to involve these at risk students with extracurricular activity groups of more advanced students to receive tutor/mentor support.

5. Looking at success rates for different demographic groups, which groups are experiencing disproportionate impact in student success? If there are student groups experiencing disproportionate impact, what is your department's plan to address the disproportionate impact? (250 words limit)

Largest groups identified by the ORPIE data are: Hispanics/Latinx, Man, DSPS, and Foster Youth. Computer Science faculty will continue to monitor students from these groups and offer support earlier in the semester. We will work with the counseling department to learn more about these students and direct them towards extracurricular activities to keep them more engaged. All department efforts will be done in an equitable manner with a special attention to creating an atmosphere of inclusion.

6. Does your department confer a degree or certificate? What is your department's plan to increase the number of students receiving degrees or certificates? (150 words limit)

Computer Science offers two degrees and two certificates. The number of certificates and degrees has significantly dropped for 2017-2018 to 4 which is a major concern. The department will start a more sustained campaign of informing and identifying students who are close to completion. Also we will work with the counseling department to identify those students who could post a certificate before the degree. Each faculty will be informed about this situation and advised toward working more proactively in helping students understand the process of posting a completion.

7. Are students transferring to four-year institutions from your program? What is your department's plan to increase the number of students transferring to a four-year institution? (150 words limit)

Computer Science course offering matches both transfer requirements and industry demands for junior level software/game developers. The department teaching rigor is equipping students with solid, foundational knowledge and skills that are bound to make them successful both in the job place and with transferring to a university. Our strength is derived from a constant update and implement for the latest developments in the field of software and game development. As a department we periodically review the C-ID requirements in order to stay compliant. Also we have introduced an Associate Degree for Transfer which helps students to identify courses for their desired transfer major.

8. Did you complete the two-year program review requirement for CTE? If no, why not? (150 words limit)

The two-year program review was performed at the department level in an informal format. Topics were discussed pertaining the goals set in the previous program review along with the schedule for curriculum review and SLO assessment.

9. Did your department complete all course SLOs assessment? If no, why not? (150 words limit)

Computer Science 3-year trend for Assessment Activity is upward. However, the assessment is not complete which motivates the faculty to refocus on a sustained and complete schedule of SLO assessment. Majority of courses with no assessment have been taught by part-time instructors. The department needs to improve communication with these instructors and provide them with assistance for proper and timely evaluation.

10. Did your department review all Course Outline of Records in the last 6 years? If no, why not?

In the previous program review our department has provided a three-year timeline for all the CORs under Computer Science to be reviewed. A number of five courses were identified for retirement. The schedule suffered a halt when in the spring of 2018 the Gaming program was placed under Vitality Review which pulled one of the full time instructors into the process and away from CORs review. Once the Vitality Review is completed, we plan to complete the review no later than spring of 2020.

Review of Last Cycle Program Review

Provide assessment of your previous program review initiatives. Summarize any accomplishments that your program achieved (List 3 to 5 bullet points). Limit to 250 words.

- ADT approval: after much deliberation and with the help of the Vice President of Instruction and the Counseling department, we were able to create the Associate Degree for Transfer for students who complete the ADT requirements.
- Increase certificate/degree completion rates: this metric has been achieved overall, but for the past year has shown a concerning decrease. As a result, we plan to take proactive steps in advising students.
- Complete overhaul of the Video Game Degree and Certificate: the full time faculty in charge with this effort was able to complete the re-work of all the respective CORs. Once the program is out of Vitality Review, these updated CORs will be submitted to the CCI committee.
- Furnish a lab with state of the art computers that are needed both for video game development and digital art rendering: this goal was achieved with the help and collaboration of Digital Media and Digital Arts disciplines.

PROGRAM PLANNING/BRAIN STORMING

Based on your analysis of previous program review and current data, list 3-5 goals that your department want to accomplish in the next three years?

1. Increase and diversify program enrollment
2. Expand partnerships with software/video games businesses in the region
3. Increase overall certificate/degree completion rates
4. Increase transfer rates to UC/CSU computing programs so more GWC program graduates go on to earn their bachelor's degrees.

Program Planning

Description of Department's Goal?	What metric will you use to measure your goal?	What actions will the department take?	Which of the College's mission and goal does this goal support?		List necessary support and/or resources if applicable.
Goal 1: Increase and diversify program enrollment	**ORPIE data for headcount and distribution by race/ethnicity/gender**	**Increased visibility during college wide outreaches as well as collaboration with the surrounding high school districts.**	☒ Transfer ☒ Degrees ☒ Certificates ☒ Career advancement ☐ College readiness	☒ Student Success ☒ Equitable Achievement ☒Learning Environment ☐ Communication ☐ Engagement ☐ Resource Optimization	**Collaboration with the outreach and marketing offices.**
Goal 2: Expand partnerships with software/video games businesses in the region	**Number of internships and coops offered. Enrollment and retention data.**	**Participate to reginal advisory meeting and conferences. Attend workshops and presentation from neighboring businesses.**	☒ Transfer ☒ Degrees ☒ Certificates ☒ Career advancement ☐ College readiness	☒ Student Success ☒ Equitable Achievement ☐Learning Environment ☐ Communication ☐ Engagement ☐ Resource Optimization	**Collaboration with the Regional Sector Navigator to identify potential partners.**
Goal 3: Increase overall certificate/degree completion rates	**ORPIE data for degrees and certificates awarded.**	**Proactive informational sessions within each course beginning with the first week**	☒ Transfer ☒ Degrees ☒ Certificates ☒ Career advancement ☐ College readiness	☒ Student Success ☒ Equitable Achievement ☐Learning Environment ☒ Communication ☒ Engagement ☐ Resource Optimization	**Counseling department to identify students close to completion.**

Goal 4: Increase transfer rates to UC/CSU computing programs so more GWC program graduates go on to earn their bachelor's degrees.	**ORPIE data for transfer.**	**Proactive informational sessions within each course beginning with the first week**	☒ Transfer ☒ Degrees ☒ Certificates ☒ Career advancement ☐ College readiness	☒ Student Success ☒ Equitable Achievement ☐Learning Environment ☒ Communication ☒ Engagement ☐ Resource Optimization	**Counseling department to identify students with declared majors for transfer.**