

Program Review, Analysis, and Planning

Department Name: Biology

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)
Biology at GWC has a higher FTES/FTEF ratio (39.7 compared to the campus ratio of 32.8). Many of our classes support other in-demand degrees and certificates on campus. Our faculty and staff are a close-knit group of collaborative and highly regarded members of the campus community. This consistently attracts students to our campus, some of whom have even returned as faculty and staff. We regularly participate in professional development and volunteer our time to offer many inclusive activities, such as:
 - Darwin's Birthday Celebration
 - Pi (3.1415) Day Celebration
 - Science Showtime
 - Summer Science Camp
 - STEM center open house
 - Off-hours supplemental instruction
 - Club advisement
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)
We have not experienced a decline in enrollment. In fact, we have experienced an increase in enrollment (8,132 in 2017-2018 compared to 7,693 in 2016-2017). We plan to continue to expand our enrollment by offering more sections of impacted courses, such as Anatomy, Anatomy/Physiology, Physiology, Microbiology, and General Biology as classroom availability increases with the opening of the Mathematics and Sciences Center.
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)
We have increased OER offerings and included student services information on syllabi following the Academic Senate recommendations. Our general biology course (which enrolls ~500 students each semester) and various 200-level courses are also working towards having a series of scheduled student services presentations during lab sessions throughout the semester. Open labs are offered outside of normal class hours to increase student access to lab materials and instructors and accommodate students who have work or family commitments. In the fall semester, we will be expanding our off-peak course offerings to further accommodate those with non-school commitments.

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)

Our 2017-2018 program course success rate (73.8%) is higher than the overall success rate (72.2%). However, our success rates declined compared to 2016-2017 (-1.4%). While two data points does not indicate a trend, we strive to increase success rates. Our plan is to increase use of embedded tutors and access to STEM resources. These resources include increased access to textbooks, models, slides, microscopes, and additional educational materials. Further, we plan to increase our offerings of supplemental instruction such as the "Bio 100 Crash Course" and open labs in courses including Anatomy, Anatomy/Physiology, Botany, Microbiology, and Zoology.

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)

Black or African American, Latinx, Native Hawaiian or Pacific Islander are the three racial demographics experiencing a disproportionate impact in student success. DSPS and Calworks students are also experiencing a disproportionate impact in student success.

GWC Biology plans to use the new Embedded Tutoring Program. Additionally we will be expanding services in the new STEM Center to close this gap. These services include increased access to textbooks, models, slides, microscopes, and additional educational materials. We also hope to provide access to in-house STEM counselors and tutors. Further, we plan to increase our offerings of supplemental instruction such as the "Bio 100 Crash Course" and open labs in courses including Anatomy, Anatomy/Physiology, Botany, Microbiology, and Zoology.

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)

Yes. We confer an AA degree. While we don't confer certificates, many of our courses contribute to pre-health certificates (existing and in development)

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)

Yes, however the data packet indicates that there is "no data" for four-year transfers in biology. GWC's Biology Department plans on encouraging BUILD and RAISE participation with partnered schools, ensuring students meet with counselors, and offering an expanded schedule will encourage students to finish courses here at GWC.

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

No CTE offerings exist in Biology.

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

No. Curricunet lags behind updated SLOs for some courses. Once these updates take place, SLO assessment will be completed.

10. Did your department review all Course Outline of Records in the last 6 years? If no, why not?
No, Biol G110 and Biol G221 were not reviewed in the last 6 years. During the last 6 years, these courses were taught by part-time faculty who were not made aware that such a review was necessary. Biol G104 was reviewed but requires further update.

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.

Previous initiatives included:

- Increase new course offerings including Biol G186 Diversity of Organisms and Biol G260 Biostatistics.

Accomplishments:

- Biol G186 is currently C-ID approved.
- Biol G186 was offered spring semester of 2019, but was cancelled due to low enrollment.
- Biol G260 is listed on assist.org and transfers to both UCI and CSULB.
- Biol G260 was offered twice, but was cancelled due to low enrollment.
- The biology ADT was researched, but due to unit constraints cannot be offered at GWC at this time.

- Planning expansion into the new facility

Accomplishments:

- With the support of Dean Hicks, a revised and expanded schedule was created that will utilize the increased classroom space available in the new Mathematics and Sciences Center.
- Lists of necessary equipment needed for the new building were constructed and forwarded to the VP of Administrative Services.
- Faculty participated in the design and furnishing of the new STEM center.
- Faculty participated in the GWC three-year technology strategic plan survey.

- Adopting new active learning pedagogy

Accomplishments:

- Biol G100 faculty collaborate and now regularly use a new Deliberative Democracy pedagogy to teach evidence-based reasoning.
- Thanks to a Foundation grant, Biol G183 faculty currently facilitate a student research driven symposium that is open to the campus and off-campus communities.

- Adopting OER

Accomplishments:

- Each semester, 1-2 sections of Biol G100, all sections of Biol G180L, Biol G221, Biol G221L, Biol G182, and Biol G160 adopt OER.
- Increase lab parity in terms of lab LHE vs. lecture LHE

Accomplishments:

- Since last Program Review negotiations have changed lab-based LHE from 0.83 to 0.85.

PROGRAM PLANNING/BRAIN STORMING

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

Goal 1: Expand course offerings to address student needs regarding degrees, transfers, and certificates.

Goal 2: Increase student success by providing appropriate support (both materials and personnel) for the courses that are offered.

Goal 3: Enhance outreach and recruitment efforts to attract a vibrant and diverse student population.

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.
<p>Goal 1: Expand course offerings to address student needs regarding degrees, transfers, and certificates.</p>	<ul style="list-style-type: none"> - Tabulation of courses being offered. - Tracking enrollment trends, certificates awarded, transfer rates, retention, and SLO success rates. 	<ul style="list-style-type: none"> - Research the need for additional courses including Biochemistry and Genetics courses and develop curriculum if needed - Collaborate with counseling to inform students of course offerings - Advertise new courses as they are offered 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Transfer <input checked="" type="checkbox"/> Degrees <input checked="" type="checkbox"/> Certificates <input checked="" type="checkbox"/> Career advancement <input type="checkbox"/> College readiness 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Student Success <input checked="" type="checkbox"/> Equitable Achievement <input checked="" type="checkbox"/> Learning Environment <input checked="" type="checkbox"/> Communication <input checked="" type="checkbox"/> Engagement <input checked="" type="checkbox"/> Resource Optimization 	<ul style="list-style-type: none"> - new full time faculty - increased instructional support personnel - increased instructional materials - financial support for advertisement
<p>Goal 2: Increase student success by providing appropriate support (both materials and personnel) for the courses that are offered.</p>	<ul style="list-style-type: none"> - Student success via SLO success rates - Student success via pass rates - Student retention rates - Course fill rates 	<ul style="list-style-type: none"> - Collaborate with research office to obtain pertinent data on an annual basis - Increase use of embedded tutor program - Increase supplemental instruction opportunities 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Transfer <input checked="" type="checkbox"/> Degrees <input checked="" type="checkbox"/> Certificates <input checked="" type="checkbox"/> Career advancement <input type="checkbox"/> College readiness 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Student Success <input checked="" type="checkbox"/> Equitable Achievement <input checked="" type="checkbox"/> Learning Environment <input type="checkbox"/> Communication <input checked="" type="checkbox"/> Engagement <input checked="" type="checkbox"/> Resource Optimization 	<ul style="list-style-type: none"> - embedded tutors - additional instructional support personnel - STEM center staff - financial support for classroom materials and their maintenance
<p>Goal 3: Enhance outreach and recruitment efforts to attract a vibrant and diverse student population.</p>	<ul style="list-style-type: none"> - Review offered outreach and recruitment opportunities - Analyze the frequency of such opportunities 	<ul style="list-style-type: none"> - Reinstate Summer Science Camp in collaboration with Community Education - Expand Science Showtime activities - Increase course participation in student research symposia - Improve communication with local high school faculty 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Transfer <input checked="" type="checkbox"/> Degrees <input checked="" type="checkbox"/> Certificates <input checked="" type="checkbox"/> Career advancement <input checked="" type="checkbox"/> College readiness 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> Student Success <input checked="" type="checkbox"/> Equitable Achievement <input checked="" type="checkbox"/> Learning Environment <input checked="" type="checkbox"/> Communication <input checked="" type="checkbox"/> Engagement <input checked="" type="checkbox"/> Resource Optimization 	<ul style="list-style-type: none"> - Financial support for events including materials, advertising, and staffing - STEM center staff - Funding for managing such events

		and counselors - Expand community engagement offerings through the new STEM center			
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