#32

COMPLETE

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Email:	miriam.simpson@gcccd.edu
IP Address:	75.50.126.140

Page 1: I. Program Overview and Update

Q1 Department(s) Reviewed:

Earth Science (GEOG, GEOL, OCEA)

Q2 Lead Author and Participants: Please list any person who participated in the preparation of this report.

Lead: Miriam Simpson
Participants: Mikayla Ortega, Jennifer Olim, Eric Bergmanis, Donna Olson, Keenan Murray

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Q3 Dean/Manager:

Pam Kersey

Q4 Program Update: Please summarize the changes, additions, and achievements that have occurred in your program since your last program review was submitted. To access your 2019 program review, visit the Program Review webpage.

Since our last program review our only full-time instructor resigned. Although we continue to run classes staffed with part-time instructors, this has seriously impeded our ability to grow this program or even maintain it in a reasonable way. Since this program focuses on subjects crucial to the future-skills the college is interested in supporting such as Climate and Environmental Science, Digital Mapping, and Cultural Diversity, we would very much like to keep it, but unless we hire someone with the skills to design a program based around teaching these subjects though an equity lens, we will most likely continue to bleed enrollment to Grossmont's much larger program.

Page 2: II. Assessment and Student Achievement

Q5 1. Do you have a course Student Learning Outcome (SLO) assessment plan on file with the Student Learning Outcome and Assessment Committee (SLOAC)?If you have not already done so, you can submit your program's assessment plan to SLO Coordinator, Tania Jabour, at tania.jabour@gcccd.edu.

Yes

Q6 OPTIONAL: You may upload a copy of your SLO assessment plan for SLOAC here. If you have an Excel sheet, please convert to one of the supported files listed below before submission.

Respondent skipped this question

Q7 2. Please provide an analysis of your Student Learning Outcomes (SLO) findings and what changes, if any, were made as a result.

We have no more full time instructor and we are still trying to sort out what is happening with SLOs.

Q8 3. Does your department or discipline offer any degrees and/or certificates?

No, and it does not have Program Learning Outcomes (PLOs)

Page 3: II. Assessment and Student Achievement

Q9 4. How are you currently assessing your PLOs?

Respondent skipped this question

Q10 5. Are your PLOs in the catalog an accurate reflection of the department or discipline's current learning objectives?To access the College Catalog Associate Degree Programs and Certificates section, click here.

Respondent skipped this question

Q11 6. Are the PLOs mapped onto the course SLOs? If you require assistance, please contact Madison Harding in the IESE Office at madison.harding@gcccd.edu

Respondent skipped this question

Page 4: II. Assessment and Student Achievement

Q12 Referencing the last 5 years of data, discuss the changes in course success rate since the last program review (annual or comprehensive) report.

Success in Earth Science suffered a noticeable dip in over the last five years coinciding with the hiring of a new full-time instructor (see figure 1). This dip was particularly pronounced in in Geology and Oceanography (the instructors areas of expertise), but not Geography which increased during this time as those courses were staffed with part time instructors. Geology/Oceanography averaged a 64% success rate during this time period vs an average success rated of 75% before and after.

Q13 Considering the college's 2024 goal of increasing course success rates to 77%, discuss how your department/discipline will help meet that goal.

Since changing instructors, our Fall 2019 success rates returned to an average of 78% indicating that it is possible with thoughtful hiring and training to meet this goal. We plan to carefully choose full and part time instructors dedicated to student success and give them resources and training on how to use modern pedagogy that supports success and equity, including active and project based learning as well as field trips and partnerships with the career center.

Q14 Please describe any equity gaps, in which specific groups (e.g., by gender and ethnicity) have success rates lower than that of the department or discipline overall.

Equity gaps over the last five years have been widening for Hispanic students in Earth Science (see figure 2). To some extent this is also true for African American students, however the total numbers are so small that the data results are far to variable to draw valid conclusions. Again, these gaps were primarily in the subjects taught by the instructor that resigned (Geology and Oceanography). Geography was not included in the graph as there were no significant equity gaps.

Q15 What department/discipline (or institutional) factors may be contributing to these lower success rates for these groups of students?

These numbers seemed to be influenced strongly by a particular instructor who is now gone. We hope to hire a new full time instructor with a better understanding of our student population who can help close these gaps.

Q16 What specific steps will the department of discipline take to address these equity gaps in the 2020/21 academic year?

Ideally we would hire a dynamic full-time instructor dedicated to the equity of our students to take on the immense work of closing these gaps through careful design and management of the curriculum, mentoring, student hours, and outreach.

As it stands now, many of our part time faculty have participated in our Course Design Workshop helps demonstrate and then implement modern, equity-centered practices into the classroom. We plan to continue this program and encourage further participation.

Q17 How do these steps inform the long-term department or discipline goals that you are setting in this annual program review?

We need a full time instructor with a strong desire to fix these equity gaps by designing a program that meets the needs of our students.

Q18 In what way does your department/discipline work across instruction and student services to advance the college's student success & equity goals?

There is no one to manage this right now since we have no full time instructors in any of these disciplines. Currently the department chair, who has no expertise in this field, is just trying to keep classes staffed and make sense of this program.

Q19 OPTIONAL: If you would like to attach any charts or additional documentation (aside from the program review report prepared by the IESE Office), please upload it using the button below.

Figures for Spring 2020 Earth Science Annual Update.pdf (325.1KB)

Page 5: II. Assessment and Student Achievement

Q20 Do you offer distance education (online) courses?   **No**

Page 6: II. Assessment and Student Achievement

Q21 Are there differences in success rates for distance education (online) versus in-person sections?

Respondent skipped this question

Q22 If there are differences in success rates for distance education (online) versus in-person sections, what will the discipline or department do to address theses disparities?

Respondent skipped this question

Q23 What mechanisms are in place to ensure regular and effective contact within online courses across the discipline or department?

Respondent skipped this question

Page 7: III. Previous Goals: Update (If Applicable)

Q24 Would you like to provide an update for your previous program review goal(s)?

Yes

Page 8: III. Previous Goals: Update (If Applicable) continued

Q25 Previous Goal 1:

Develop and Implement TMC for Geography & GIS Course

Q26 Which College Strategic Goal does this department goal most directly support?

Guided Student Pathways

Q27 Please describe how this goal advances the college strategic goal identified above.

Currently, there are not specific Geography, Geology or Oceanography degrees for transfer and thus students must enroll in University Studies: Science and Mathematics (area D) when they would like to specialize in these disciplines. By offering a TMC in geography, it enables students guaranteed transfer into the CSU or UC system in their chosen discipline. The new HSI STEM grant will also support the development of additional degrees including Oceanography and Geology. To achieve this goal, a Geographic Information System (GIS) course must be developed and implemented. Implementing a GIS course will have a positive impact on all students at the college, not only Geography, Geology and Oceanography students. GIS is a core technology in the sciences and has many business applications. Giving students the opportunity to incorporate this technique into their skill set will promote success in their academic studies and careers. This course also will serve to teach other potential students who want to come to the college to learn this specific technology to support their job goals and requirements.

Q28 Goal Status

Deleted

Page 9: III. Previous Goals: Update (If Applicable) continued

Q29 Please describe the results or explain the reason for deletion/completion of the goal:

Our only full time faculty member resigned and we now have no one to do this.

Q30 Do you have another goal to update?　　　　　**Yes**

Page 10: III. Previous Goals: Update (If Applicable) continued

Q31 Please describe action steps for the year:　　　**Respondent skipped this question**

Q32 How will this goal be evaluated?　　　　　**Respondent skipped this question**

Q33 Do you have another goal to update?　　　　**Respondent skipped this question**

Page 11: III. Previous Goals: Update (If Applicable) continued

Q34 Previous Goal 2:

Develop Two Additional Regional Field Studies Courses Focused on Mountain and Coastal Environments

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Q35 Which College Strategic Goal does this department　**Student Validation and Engagement**
goal most directly support?

Q36 Please describe how this goal advances the college strategic goal identified above.

Understanding how to apply what students learn in the classroom to the field environment is critical aspect of studying any of the Earth Sciences disciplines and field experiences increases student engagement and motivation in the disciplines. In the past when students could take a course more than once for credit, the GEOG 122 field course could be modified each semester to investigate a different region. This is no longer the case; therefore, each field course must have its own course number and course outline. GEOG/GEOL 122 was redesigned in Spring 2018 to focus on desert environments and the goal is to develop two additional field courses centered on mountain and coastal environments. This will give students comprehensive field experience in these three major environments.

Q37 Goal Status　　　　　　　　　**Deleted**

Page 12: III. Previous Goals: Update (If Applicable) continued

Q38 Please describe the results or explain the reason for deletion/completion of the goal:

Our only full time faculty member resigned, and we have no one with the skills to do this.

Q39 Do you have another goal to update?　　　　**No**

Page 13: III. Previous Goals: Update (If Applicable) continued

Q40 Please describe action steps for the year: **Respondent skipped this question**

Q41 How will this goal be evaluated?   **Respondent skipped this question**

Q42 Do you have another goal to update?   **Respondent skipped this question**

Page 14: III. Previous Goals: Update (If Applicable) continued

Q43 Previous Goal 3:   **Respondent skipped this question**

Q44 Which College Strategic Goal does this department goal most directly support?   **Respondent skipped this question**

Q45 Please describe how this goal advances the college strategic goal identified above.   **Respondent skipped this question**

Q46 Goal Status   **Respondent skipped this question**

Page 15: III. Previous Goals: Update (If Applicable) continued

Q47 Please describe the results or explain the reason for deletion/completion of the goal: **Respondent skipped this question**

Q48 Do you have another goal to update?   **Respondent skipped this question**

Page 16: III. Previous Goals: Update (If Applicable) continued

Q49 Please describe action steps for the year: **Respondent skipped this question**

Q50 How will this goal be evaluated?   **Respondent skipped this question**

Q51 Do you have another goal to update?   **Respondent skipped this question**

Page 17: III. Previous Goals: Update (If Applicable) continued

Q52 Previous Goal 4:   **Respondent skipped this question**

Q53 Which College Strategic Goal does this department goal most directly support? **Respondent skipped this question**

Q54 Please describe how this goal advances the college strategic goal identified above. **Respondent skipped this question**

Q55 Goal Status **Respondent skipped this question**

Page 18: III. Previous Goals: Update (If Applicable) continued

Q56 Please describe the results or explain the reason for deletion/completion of the goal: **Respondent skipped this question**

Q57 Do you have another goal to update? **Respondent skipped this question**

Page 19: III. Previous Goals: Update (If Applicable) continued

Q58 Please describe action steps for the year: **Respondent skipped this question**

Q59 How will this goal be evaluated? **Respondent skipped this question**

Q60 Do you have another goal to update? **Respondent skipped this question**

Page 20: III. Previous Goals: Update (If Applicable) continued

Q61 Previous Goal 5: **Respondent skipped this question**

Q62 Which College Strategic Goal does this department goal most directly support? **Respondent skipped this question**

Q63 Please describe how this goal advances the college strategic goal identified above. **Respondent skipped this question**

Q64 Goal Status **Respondent skipped this question**

Page 21: Copy of page: III. Previous Goals: Update (If Applicable) continued

Q65 Please describe the results or explain the reason for deletion/completion of the goal: **Respondent skipped this question**

Page 22: Copy of page: III. Previous Goals: Update (If Applicable) continued

Q66 Please describe action steps for the year: **Respondent skipped this question**

Q67 How will this goal be evaluated?   **Respondent skipped this question**

Page 23: IV. New Goals (If Applicable)

Q68 Would you like to propose any new goal(s)?   **Yes**

Page 24: IV. New Goals (If Applicable) continued

Q69 New Goal 1:

Re-imagine Earth Science as part of an Environmental and Climate Science Pathway

Q70 Which College Strategic Goal does this department   **Organizational Health**
goal most directly support?

Q71 Please describe how this goal advances the college strategic goal(s) identified above.

Currently our once-strong Earth Science program is dwindling. We can either cede our remaining enrollment to Grossmont, or rethink the program as a new way of teaching equity-sensitive general education science emphasizing cultural diversity through Geology, and Climate Science through Oceanography and Geography. As we already have a large amount of sunk cost by way of equipment, curriculum, space, and course materials, it makes sense to keep this program alive and work with Grossmont while providing a differentiated path from their larger degree program.

Q72 Please indicate how this goal was informed by SLO (student learning outcome) assessment results, PLO (program learning outcome) assessment results, student achievement data, or other data:

Climate and environmental science are growing fields according to data from the bureau of labor statistics (https://www.bls.gov/ooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm, https://www.bls.gov/oes/current/oes192041.htm#st). We can rebuild this program while differentiating it from Grossmont.

Q73 Action steps for this year:

Hire a full time instructor
Encourage all faculty to engage in equity-based teacher training

Q74 How will this goal be evaluated?

We will look at enrollment, success, and equity

Q75 Do you have another new goal?   **No**

Page 25: IV. New Goals (If Applicable) continued

Q76 New Goal 2:   **Respondent skipped this question**

Q77 Which College Strategic Goal does this department goal most directly support?   **Respondent skipped this question**

Q78 Please describe how this goal advances the college strategic goal(s) identified above.   **Respondent skipped this question**

Q79 Please indicate how this goal was informed by SLO (student learning outcome) assessment results, PLO (program learning outcome) assessment results, student achievement data, or other data: **Respondent skipped this question**

Q80 Action steps for this year: **Respondent skipped this question**

Q81 How will this goal be evaluated?   **Respondent skipped this question**

Q82 Do you have another new goal?   **Respondent skipped this question**

Page 26: IV. New Goals (If Applicable) continued

Q83 New Goal 3:   **Respondent skipped this question**

Q84 Which College Strategic Goal does this department goal most directly support?   **Respondent skipped this question**

Q85 Please describe how this goal advances the college strategic goal(s) identified above.   **Respondent skipped this question**

Q86 Please indicate how this goal was informed by SLO (student learning outcome) assessment results, PLO (program learning outcome) assessment results, student achievement data, or other data: **Respondent skipped this question**

Q87 Action steps for this year: **Respondent skipped this question**

Q88 How will this goal be evaluated?   **Respondent skipped this question**

Q89 Do you have another new goal?   **Respondent skipped this question**

Page 27: IV. New Goals (If Applicable) continued

Q90 New Goal 4:   **Respondent skipped this question**

Q91 Which College Strategic Goal does this department goal most directly support?   **Respondent skipped this question**

Q92 Please describe how this goal advances the college strategic goal(s) identified above.   **Respondent skipped this question**

Q93 Please indicate how this goal was informed by SLO (student learning outcome) assessment results, PLO (program learning outcome) assessment results, student achievement data, or other data: **Respondent skipped this question**

Q94 Action steps for this year: **Respondent skipped this question**

Q95 How will this goal be evaluated?   **Respondent skipped this question**

Page 28: V. Resources Needed to Fully Achieve Goal(s)

Q96 Is the program requesting resources this year to achieve this program goal(s)? (Faculty Resource Needs, Classified Staff Resource Needs, Technology Resource Needs, Supplies/Equipment Resource Needs, Facilities Resource Needs or Other Resource Needs)   **Yes**

Page 29: VI. Faculty Resource Needs

Q97 Are you requesting one or more Faculty Positions to achieve this program goal(s)?   **Yes**

Page 31: VIII. Classified Staff Resource Needs

Q98 Are you requesting one or more Classified Positions to achieve this goal?   **Yes**

Page 33: X. Technology Resource Needs

Q99 Are you requesting technology resources to achieve this goal?   **Yes**

Page 35: XIV. Supplies/Equipment Resource Needs

Q100 Are you requesting supplies and/or equipment resources to achieve this goal?   **No**

Page 37: XVI. Facilities Resource Needs

Q101 Are you requesting facilities resources to achieve this goal(s)?   **No**

Page 39: Final Check

Q102 Are you ready to submit your program review?If you would like to go back and review a section, select a section a click "Next."   **I am ready to submit my program review**