**Academic Bi-Annual Review Form**

**Physical & Biological Sciences 2019-2020**

**Years Two and Four of the Program Review Cycle**

The Coconino Community College bi-annual review will consist of two areas: an update to the Program Review Action Plans/Recommendations and a review of program student learning outcomes, results, actions taken, and future actions since either the last program review or bi-annual review.

Prior to completing the Bi-Annual Review form, the Assessment Coordinator will provide the program with the most recently completed Program Review Actions Plans/Recommendations, Program Assessment Reports with associated assignments and rubrics, and a summary of related Course Assessment Reports. In Year Four, the previous Bi-Annual Review information will be provided as well.

Provide a status update to any of the recommendations. Then analyze the attached student learning assessment data and provide any future actions to be taken based on that data. In Year Four, provide an update on previously stated future actions from the previous bi-annual report. Attach any department/program minutes or other appropriate documentation that recorded discussion of updates to recommendations or of student learning assessment.

**I. ACTION PLAN/RECOMMENDATION UPDATE *\*Repeat 1-5 for each Action Item list below.***

**1. Action Item 1 (# as indicated on last completed program review): Hiring Lab science coordinator and re-arranging lab support structure**

**2. Anticipated date for completion: End of 2018**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We hired a Science Lab Coordinator in 2017, whose position transitioned into a faculty position with dual responsibility of teaching and lab prep. With the 2019 departure of that person, we have hired a new person in January 2020, returning it to full-time staff position.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 2 (# as indicated on last completed program review): Hiring full time Physics/Astronomy/Engineering faculty**

**2. Anticipated date for completion: End of 2019**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We hired a full-time instructor in Fall 2020.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 3 (# as indicated on last completed program review): Optimum class schedule**

**2. Anticipated date for completion: Continuous**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We review the class schedule each semester and make adjustments as needed. We have met with the Math department, most recently in Spring 2020, to coordinate our class schedules to avoid conflict in student academic progress.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 4 (# as indicated on last completed program review): Revision of current textbook or adoption of new text book for classes**

**2. Anticipated date for completion: Continuous**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): Faculty Senate has discussed a timeline of textbook review. We are awaiting their decision while we keep reviewing our textbooks in each course. We are employing open education resources in some of our courses.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 5 (# as indicated on last completed program review): Creation of a centralized instrumentation lab**

**2. Anticipated date for completion: End of 2020**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): This action item was delayed during the tenure of the 2017 Science Lab Coordinator. We can follow up with this after our current Science Lab Coordinator has at least one semester to establish the procures within the Prep area. This action item will be revisited in the next Program Review.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 6 (# as indicated on last completed program review): Online/hybrid class offering**

**2. Anticipated date for completion: End of 2019**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We have created a number of online/hybrid offerings in the following courses: BIO 100, BIO 105, BIO 181, BIO 182, BIO 201, BIO 202, BIO 205, BIO 218, CHM 130, GLG 110, GLG 232. We are evaluating if other courses would serve well with online/hybrid offerings.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 7 (# as indicated on last completed program review): Creation of a Dean’s List for Science Student**

**2. Anticipated date for completion: End of 2019**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We have discussed this topic with the Dean, but other projects have taken priority in the interim. We will revisit this after the current Pathways project has been established (to determine how to identify Science Students and discuss rubrics for the Dean’s List).**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 8 (# as indicated on last completed program review): Geology Curricular Changes**

**2. Anticipated date for completion: Unknown**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): Following discussions with other representatives at the Geology ATF, GLG 101 Physical Geology was added as a pre-requisite to GLG 102 Historical Geology. This creates a 2 semester freshman year sequence in Geology. Following a meeting with representatives of NAU's Geology Department, GLG 110 Natural Disasters has also been proposed as an alternative pre-requisite. This will give students two possible paths into GLG 102 (GLG 101 or GLG 110) as is the case at NAU. A proposal to increase the Differential Tuition for GLG 112 Geology of the Grand Canyon and GLG 232 Geology of the Colorado Plateau has been submitted to the Board. The goal is to increase fees to allow us to teach these courses as field trip based courses (cover van rentals, gas, and related travel costs. Demand has increased for an online offering of GLG 110 Natural Disasters. Spring 2020 - part-time faculty member Scott Johnson is being paid to develop this course for offering in Summer or Fall/Spring semesters.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 9 (# as indicated on last completed program review): The hiring of 2nd full-time chemistry faculty**

**2. Anticipated date for completion: End of 2019**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We hired a Science Lab Coordinator in 2017 whose position evolved to include teaching Chemistry classes. We are advertising for a full-time Biology instructor position to begin fall 2020 which may have credentials to teach Chemistry classes. The pursuit of a 2nd full-time Chemistry instructor position will be discussed in the future.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 10 (# as indicated on last completed program review): Securing external funding**

**2. Anticipated date for completion: End of 2020**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We have begun early steps in learning what funding opportunities are available. Progress on this action item would be facilitated by release time or external funding of current employees to address this. We are also awaiting the College in hiring a full-time grant writer.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 11 (# as indicated on last completed program review): Using local resources and responding to local needs**

**2. Anticipated date for completion: Continuous**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): We routinely bring in local guest lecturers to our classes, such as EGR 186 (Introduction to Engineering) and BIO 201 (Human Anatomy & Physiology I), drawing upon experts at NAU and W.L.Gore. Members of our department frequently judge at local science fairs, offer Comet Talks, and represent CCC in civic events (i.e., The Literary Bee). We participate in the annual Festival of Science (Science in the Park, on-campus presentations, and CCC Science Night). We hosted Science and Stars (a kids camp in Page, AZ) in Summer 2018. We are researching a Bioscience Certificate program to address local needs for qualified laboratory technicians.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 12 (# as indicated on last completed program review): Initiating collaborative learning**

**2. Anticipated date for completion: Continuous**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): Melinda McKinney brought instructors from other disciplines into her BIO 105 (Environmental Biology) class to talk about critical thinking in their disciplines. Kurt Yuengling and Melinda McKinney talked about climate change in a discussion with the CCC Anthropology Club.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 13 (# as indicated on last completed program review): Purchasing a large printer**

**2. Anticipated date for completion: End of 2020**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): The Marketing Department has purchased a large-scale printer, but it currently only prints to vinyl (we wish to print posters and topographical maps). We are researching options to outsource the printing or the possibility of purchasing the raw materials for the Marketing printer.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 14 (# as indicated on last completed program review): Review of Anthropology and Geography courses**

**2. Anticipated date for completion: Unknown**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): Physical Anthropology and Physical Geography are listed as Gen Ed Physical & Biological lab Science courses. We are talking with their instructors to find the best location for these courses (or replacement with other courses) within the upcoming Pathways. The Gen Ed committee is reviewing which courses would fit into these categories.**

**5. Last reviewed date: 2/14/2020**

**1. Action Item 15 (# as indicated on last completed program review): Monitor Needs of Page Campus**

**2. Anticipated date for completion: Continuous**

**3. List potential benefits to student success: See the Program Review.**

**4. Status Update (Only Update during Bi-annual Review Reporting): With the closure of the Navajo Generating Station, the College is reviewing the needs of the population around the Page campus. We are assisting with the monitoring of what equipment and course needs will best serve that population.**

**5. Last reviewed date: 2/14/2020**

**II. ASSESSMENT OF STUDENT LEARNING *\*Repeat 1-5 for each outcome/measure evaluated. If only one outcome is evaluated, answer 1-5 once.***

**1. Program Outcome/Measure: This will be analyzed during the subsequent Program Review in 2022. The same holds for #2-5 of this section.**

**2. Course(s) Assessment Gathered:** Click or tap here to enter text.

**3. Method of Assessment:** Click or tap here to enter text.

**3. Semester Information Gathered:** Click or tap here to enter text.

**4. Results of Assessment:** Click or tap here to enter text.

**5. Associated Benchmarks:** Click or tap here to enter text.

**III. ANALYSIS** (Examine the results for evidence of learning, trends, and whether the results inform quality improvement efforts)**: We have not gathered program-specific data that can be used to analyze the action items in this report. We will include the development of program-level assessment into the subsequent Program Review in 2022.**

**IV. UPDATE ON ANY PREVIOUS ACTIONS: See the comments in each action item above.**

**V. FUTURE ACTIONS: We will continue to visit each of these Action Items either to their conclusion or the start of the next Program Review in 2022 (at which time we will evaluate which action items to continue, modify, or conclude).**