

Program Review Comprehensive Report



Program Review - Instructional: Biology

Supplemental Reports and Attachments

2014 - 2017

Comments or Notes: NCB ENTERED

Attachments:

[2014-17_BIOLOGY_SLO_DISCIPLINE.pdf](#)

[2014-17_MIRCOBIOLOGY_SLO_DISCIPLINE.pdf](#)

[2014-17_HES_SLO_DISCIPLINE.pdf](#)

Program Trends and Updates

2014 - 2017

Program Update Section

Has your unit shifted departments in the PAST 4 years?: Yes, the old college department included math, science (physical and life) and kinesiology. After going through the shared governance process Math is now its own department and Science and Kinesiology is a separate department.

Do you anticipate your unit will shift departments in the NEXT 4 years?: No

New certificates programs created by your unit in the PAST 4 years?: Biology A.S.-T.

New certificate programs anticipated by your unit in the NEXT 4 years?: California Naturalist state certification, Environmental Science A.S.-T.

Substantial modifications made to certificates/degrees in the PAST 4 years.: None

Substantial modifications anticipated to certificates/degrees in the NEXT 4 years.: Change of numbering in Biology ADT for BIO-11 to BIO-60 and BIO-12 to BIO-61

Activities in other units that impacted your unit in the PAST 4 years.: STEM grant has provided SI assistance and equipment

Activities in other units that impacted your unit in the NEXT 4 years.: ADT in Biology increases the need for Chemistry and Physics classes. Increases in lab courses require additional support from laboratory technicians, which require a new hire of another full-time laboratory technician.

Previous Program Review Resource Requests

Resource Requests Received: Our unit has been able to purchase the following vital equipment to enhance student learning: shades, new tables and a watering system for the greenhouse, plant presses and storage cases, a cell counter, and mammalian tissue culture supplies and equipment, safety hood for Bio prep area, some biology and microbiology replacement slides, new anatomy models for majors BIO-12, storage shed for plant press cases, and cork boards for ST 201 suite.

How did the resources received impact student learning?: Resources impact student learning by providing more relevant biotechnology for improved laboratory experiences.

If you requested resources but did not receive them, how did that impact student learning?: CONCERN: The district and the college have not responsibly or transparently decided which entity is responsible for vendor payments. Several vendors in biology and anatomy have had substantial delays in receiving payment. Furthermore, extensive delays occur between authorization and approval and actual funds dispersal. This was clearly evident when one of our colleges attempted to purchase the supplies at Home Depot and the card was rejected due to lack of funds. All of these payment issues to science vendors needs to be resolved.

BIOLOGY 5, BIOLOGY 8, BIOLOGY 12: Did not receive three tiered seed sprouter which reduces ability to conduct plant growth experiments.

BIOLOGY 11 AND MICROBIOLOGY: Did not receive ELISA plate reader upgraded software package, new computer to run

software, and updated ELISA plate reader. ELISA is one of the most well know diagnostic techniques used in cell and molecular biology, microbiology, and applied laboratory diagnostics. Currently, Norco College's ELISA plate reader is approximately 11 years old and no longer properly reads absorbances. Furthermore, the computer which runs the software is approximately 12 years old and at this point no longer even starts the software without error messages. ELISA is one of the most critical techniques which many industry partners and medical labs expect graduates to understand.

FOR BIOLOGY 11, BIOLOGY 1, AND MICROBIOLOGY: Fortunately the autoclave which is 11 years old had no issues during the 2017-2018 academic year. We can not rely on luck in the future and absolutely need an autoclave service contract. If the autoclave is not maintained and does not work, the interruption in student learning can not be overstated. Microbiology would simply NOT be able to run the lab sections without sterile cultures and supplies. Furthermore, the autoclave is used in one essential biology 1 experiment and three biology 11 experiments. If funding for a new autoclave is not available it is essential that our college obtain a service contract for our currant autoclave.

FOR ALL BIOLOGY COURSES HELD IN IT 128: This lab currently outfitted with 30 laptop computers. These computers are 7 years old and used in all biology labs held in this lab room. Software is so out of date that Norco Colleges IT department will not update some of the programs and systems because the hardware does not support the update. Many of the batteries no longer hold the charge and do not work even when plugged into sockets. These computers are used for the following tasks:

- Laboratory testing including biological pictures and specimens for laboratory exams
- Teaching students how to make excel graphs which accurately represent the data these students collect during labs.
- Several virtual labs in biology 1 and biology 8

FOR ALL BIOLOGY COURSES : Many of the slides through years of use have been broken and additionally our department needs several new slide trays for several organisms including, but not limited to:

- Infectious disease slides
- Organismal slides (tissues, etc.)
- Botany slides
- Cell specimens slides for biodiversity labs

FOR BIOLOGY HONORS, BIOLOGY 17 AND BIOLOGY 12: The fundamental lack of human anatomical specimens in lab rooms ST 203 and IT 128 makes teaching several important human systems inadequate and ineffective. Models are currently in the anatomy labs. However, these models can not be moved over into ST 203 and IT 128 because several of these classes overlap with the models in use when needed in the biology labs.

FOR BIOLOGY 8 AND BIOLOGY 12: Replacement of 4 oxygen meters was approved during the last program review cycle. However, 8 meters were requested. Therefore, only the 4 new probes work accurately and the other 4 older probes continually give inaccurate readings or do not work at all. Four additional probes are still needed (usually for 8 groups of students) so conduct ecological experiments concerning energy flow and net primary productivity

Program Data Highlights Section

COR Review: Courses reviewed and updated with the same number: BIO 1, BIO 1H, BIO 3, BIO 5, BIO 7, BIO 8, BIO 10
Courses reviewed and number changed (in process): BIO 11 to BIO 60, BIO 12 to BIO 61, BIO 17 to BIO 4, BIO 30 to BIO 16, BIO 34 to BIO 18, BIO 36 to BIO 19, AMY 10 to BIO 45, AMY 2A to BIO 50A, AMY 2B to BIO 50B, MIC 1 to BIO 55
Health Science HES 1 is to be cross-listed with BIO 35

Program Metric Highlights: The goal that has been met is the offering of BIO 11 both semesters and BIO 12 both semesters, to better meet the needs of biology majors, whether they are getting an A.S.-T. or not.

Assessment Report Highlights: Fully assessed and reported: BIO 1, BIO 3, BIO 5, BIO 7, BIO 10, BIO 12, BIO 34, BIO 36
Partially reported: BIO 1H (should be completed in June 2018), BIO 17, HES 1

Not reported: BIO 8 (only taught once every 2 years, should be completed December 2018), BIO 11 (assessed, should be completed in June 2018), BIO 30 (assessed, adjunct instructor has had difficulty accessing the system to enter the data)

Program Goal: Increase availability of Biology majors' courses

Offer BIO 11 in both Spring and Fall terms. Offer BIO 12 in both Spring and Fall terms.

Goal Status: Completed

Goal Year(s): 2014 - 2017

Start Date: 04/01/2016

Completion Date: 12/13/2017

How do your goals support the Educational Master Plan?: Provide educational opportunities by increasing transfer preparedness

This Program Goal Supports the selected EMP Goal(s) and Objective(s): Goal 1 Objective 1: Improve transfer preparedness (completes 60 transferable units with a 2.0 GPA or higher).

Program Review - Instructional: Biology

Program Goal: Lab manual for Microbiology

Develop a tailored local lab manual for Microbiology. Develop labs and write an appropriately leveled lab manual.

Goal Status: In Progress

Goal Year(s): 2014 - 2017, 2018 - 2021

Start Date: 04/01/2017

How do your goals support the Educational Master Plan?: Provide an innovative approach to learning as stated in the mission.

This Program Goal Supports the selected EMP Goal(s) and Objective(s): Goal 1 Objective 1: Improve transfer preparedness (completes 60 transferable units with a 2.0 GPA or higher).

Program Goal: California Naturalist certificate

Develop a California Naturalist state certificate.

Goal Status: In Progress

Goal Year(s): 2018 - 2021

Start Date: 02/03/2018

How do your goals support the Educational Master Plan?: A California Naturalist state certificate will increase student engagement by providing an excellent component to their curriculum vitae and allow them to act as citizen scientists in a more engaged manner.

This Program Goal Supports the selected EMP Goal(s) and Objective(s): Goal 3 Objective 1:

Program Goal: Environmental Science A.S.-T.

Develop an Environmental Science A.S.-T.

Goal Status: In Progress

Goal Year(s): 2018 - 2021

Start Date: 02/12/2018

How do your goals support the Educational Master Plan?: Improve transfer preparedness

This Program Goal Supports the selected EMP Goal(s) and Objective(s): Goal 1 Objective 1: Improve transfer preparedness (completes 60 transferable units with a 2.0 GPA or higher).