Comprehensive Program Review Report

Program Review - Natural Sciences

Program Summary

2023-2024

Prepared by: Francisco Banuelos in consultation with Adjunct Faculty
What are the strengths of your area?: Natural Science, NCSC 131 forms part of the Teachers Education Pathway. Similar to Earth Science 101, Math 10, and Math 11, Students seeking to become teachers must take them in order to get the degree. Historically, the success rates are impressive. Since 2017/18, the lowest success rate is 83%, the highest being 98.5% which was in 2022/23.
The courses are very efficient as well. Typically taught as single lecture/double labs. At times, we had single lectures/triple labs. The lowest FTES/FTEF ratio since 2017/18 was 19.00. The peak, during the pandemic in 2020/21 was 30.78. Since then, the course efficiency rate has stabilized to 23.49.
Since 2017/18, we have been able to grow the sections offered to serve more students. We served 57 students in fall/spring 2017/18. We were able to serve 130 students last year by expanding the number of sections offered by three additional sections. We were fortunate to hire two new adjunct faculty. One taught the evening courses and another taught a new section in the early afternoon. Which allowed us to serve a student group that had been requesting courses earlier in the day.

Breaking down the numbers, In 2022/23, 104 students were Hispanic and 22 were white. That same year, 98.1% of Hispanic students passed the course and 100% of white students passed it. 100 percent of the students were classified as "Continuing Students." 116 students were female, and 14 were male. Of them, 98.3% of females passed the class as compared to 100% of males.

For the same year (2022/23), the majority of students were between the ages of 20-24 a total of 74 students. Followed by 30 students who were less than 20 years of age. 15 students were between 25-29, and 11 were between 30-49.

What improvements are needed?: An area that can improve would be to create a foundational structure that could help onboard new adjunct instructors to teach the course. Historically, the class has been taught by a physics-based faculty member, it switched to a chemistry-based faculty, Today, both of our adjuncts are physics based. Creating a consistent set of laboratories would help improve the structure of the class and labs, making it balanced.
Describe any external opportunities or challenges.: The challenge with the course will be the CalGETC, has the list of approved transfer GE transfer courses for science. The course meets the degree requirements for Teachers, but we are not sure what the impact will be on enrollment once CalGETC is fully implemented.
Overall SLO Achievement: Given information and data gathered during a laboratory experiment, students will be able to graph the data and draw conclusions based upon all the information gathered. : 35% were able to answer this question correctly.

Given a unit in the English system, students will be able to convert into metric. 75% of students were able to do this conversion.

Given that many concepts in physical science can be described with mathematical equations, students will be able to use the equations to solve mathematical word problems related to the topic presented. 60% of the students are able to answer this question correctly.
Changes Based on SLO Achievement: Updated lab activities and hands-on projects have been added to the courses. We are also using the JM 208 and taking advantage of the supplies offered in that lab.
Overall PLO Achievement: N/A
Changes Based on PLO Achievement: N/A

Outcome cycle evaluation: Next cycle is scheduled for fall 2024

Action: XXXXX XXXX

Example

Leave Blank:
Implementation Timeline: 2023 - 2024
Leave Blank:
Leave Blank:
Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Francisco Banuelos
Rationale (With supporting data):
Priority: Medium
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2023 - 2024 08/24/2023
Status: Continue Action Next Year
xxxxxx
Impact on District Objectives/Unit Outcomes (Not Required):

Action: 2023-24 Create a standardized template of labs

Work with adjunct faculty to develop a standardized set of labs and weekly lectures, consistent with the COR. But, that will assist with creating a foundation that new adjuncts can you to assist them in developing their classes.

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Identify related course/program outcomes:
Person(s) Responsible (Name and Position): Chance Spencer, Russ Billings, Francisco Banuelos
Rationale (With supporting data):
Priority: High
Safety Issue: No
External Mandate: No
Safety/Mandate Explanation:

Link Actions to District Objectives

District Objectives: 2021-2025
District Objective 1.1 - The District will increase FTES 2% from 2021 to 2025.
District Objective 2.1 - Increase the number of students who earn an associate degree or certificate (CTE and non-CTE) by 5% from 2021-2025.
District Objective 2.2 - Increase the number of students who are transfer-ready by 15% and students who transfer to four-year institutions by 10% from 2021-2025.
District Objective 3.1 - Reduce equity gaps in course success rates across all departments by 40% from 2021-2025.
District Objective 4.3 - Improve professional development practices District-wide for all District employees to support equity and operational effectiveness from 2021-2025.

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Action: 2023-24 Natural Science OER

Research the possibility to having an OER Zero Textbook Cost option for the Natural Science classes.

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Rationale (With supporting data):
Priority: High
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