

Comprehensive Program Review Report



Program Review - Natural Sciences

Program Summary

2021-2022

Prepared by: Francisco Banuelos

What are the strengths of your area?: The Natural Science course is a required course for the Liberal Studies Transfer program to Fresno State University. For 2020-21 there were 1,124 students majoring in Liberal Arts, 648 in Natural Science. A larger number of female students (157) enrolled in NSCI during the 2020-21 academic year as compared to male students (24). The majority of students are between the ages of 20-24 and is the age group that has the less success rate (87.3%). Students who complete the prerequisites for this degree enter Fresno State as juniors in their Teacher's Preparation Program. Since this is a primarily adjunct faculty staffed class, program issues are generally addressed by the Division Chair and the Dean of the Division. Enrollments in the class have traditionally been strong (30.78 FTES/FTEF in 2020-21) and success rates have historically been excellent (90% in 2020-21). All adjuncts staffing the course work closely with Dr. Owens to ensure that the resources of the physics program are available to the instructors of this course. Successful course completion is high in this course and exceeds that of the other physical sciences. Also notable is the productivity of this class almost double the standard of 17.5.

In addition to learning fundamental scientific concepts, students are also invited to develop lessons that can be utilized in future teaching experiences. The additional time and effort required to prepare for such special projects continue to be incorporated into the lab portion of this course. Recent increases in the base budget for the physical sciences have made it easier to support Natural Science

What improvements are needed?: Additional sections were added to meet student demand, but it may have impacted student success. The course can be taught as a physics or chemistry-based course. Historically the course was physics-based and switched over to chemistry-based during the 2020 year, which may have contributed to the drop in success rate. Further analysis by the Physics and Chemistry Departments could assist with determining the drop in success rates, including conversations with the Dean about the structure of the course, and resources needed to support students.

Describe any external opportunities or challenges.: COVID impacted the success rates. There was a 10-15% drop in success when EWs are included. DIGs were analyzed, specifically within race and gender, and no obvious difference was noted. The courses were taught remotely, which gave the opportunity to serve more students as noted in the strengths section. Nevertheless, it did impact success.

Overall SLO Achievement: SLO is scheduled to be assessed in the fall 2021 semester. The Dean will collaborate with the adjunct faculty member to complete the SLO assessment and input the results into TracDat.

Changes Based on SLO Achievement: No changes are needed as of the date of this Program Review.

Overall PLO Achievement: NA

Changes Based on PLO Achievement: NA

Outcome cycle evaluation: The course has historically been taught by adjunct faculty. SLO achievement is documented, but a stronger collaboration is needed in order to ensure that the evaluation cycle is kept.

Action: Hold monthly meetings between adjunct faculty and Dean

We will set monthly meetings between the adjunct faculty that teach this course and the Dean to strengthen collaboration and communication in order to provide better support for the class and gather feedback on what resources are needed.

Leave Blank: Nonessential/Nice to have

Implementation Timeline: 2021 - 2022

Leave Blank:

Leave Blank:

Identify related course/program outcomes:

Person(s) Responsible (Name and Position): Ryan Froese and Francisco Banuelos

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Rationale (With supporting data): There has been a drop in student success rates in 2020.

Priority: Medium

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2021-2022

09/24/2021

Status: Action Discontinued

No action was taken for 2015/2016. The supplies will continue to be borrowed from the Physical Sciences.

Impact on District Objectives/Unit Outcomes (Not Required): None

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 1.1 - The District will increase FTES by 1.75% over the three years

District Objective 3.2 - By 2021, increase the percentage of students in targeted groups who complete transfer-level English (by 10 percentage points) and transfer-level math (by 5 percentage points) within their first year