NORCO COLLEGE

Program Review - Overall Report

2024 - 2027

Instructional: Engineering

<div style="text-align:center">**2024 - 2027**</div>

Overall Trends

What overall trends do you see in success, retention, program of study, educational planning, and awards over the past 3 or more years?

a. Success: According to the dashboard it appears the overall success rates for the ENE Discipline have been consistently increasing towards Pre-Pandemic rates.

Year	Total ENE Discipline Success Rate
22-23	72.7 %
21-22	67.6%
20-21	63.6%
19-20	70.3%
18-19	76.2%

b. Retention: According to the dashboard it appears the overall retention rates were slightly reduced during the early Pandemic. However, overall retention rates increased in subsequent Academic years to a local maximum of 87.7% for the ENE Discipline.

Year	Total ENE Discipline Success Rate
22-23	87.7%
21-22	87.4%
20-21	83.7%
19-20	81.1%
18-19	85.6%

c. Program of Study: A large number of students declare a Pre-Engineering program of study in recent years at Norco College. Total Number (General Population): The number of general students with a declared major in Pre-Engineering has increased gradually & consistently from 19/20-22/23 starting at 404 and ending at 448.

Year	Total ENE Discipline Success Rate
22-23	448
21-22	394
20-21	409
19-20	404

d. Educational Planning: Pre-Engineering: In 19/20 the proportion of Pre-ENE students with some type of ed plan was found to be lower than that of all programs at NC as a whole. However, the proportion of Pre-ENE students with some type of ed plan was found to be higher than that of all programs at NC in subsequent years from 20/21-22/23. From 21/22 to 22/23 there was a large drop in the proportion of Pre-ENE students with some type of ed plan which went from 43.15% to 26.34%. A similar drop was seen among programs at NC as a whole which went from 32.72% to 24.50% the same years.

	19-20	20-21	21-22	22-23	Total
Any Type SEP (Pre-ENE)	33.91	43.52	43.15	26.34	36.44
Any Type SEP (All Programs at NC)	39.4	31.01	32.72	24.50	32.01

e. Awards: The Total number of Pre-Engineering Awards at Norco College is alarmingly low. According to the data, around 400 students have declared a Pre-Engineering program of study in recent years, yet, the program has less than 50 awards annually. A new program goal and resource requests have been established in this Program Review to support improvement in this area.

Year	Total Pre-Engineering Awards
22-23	37
21-22	42
20-21	41
19-20	35
18-19	16

Please add any relevant documents here.

Disaggregated Student Subgroups

Look at the disaggregated student subgroups in success, retention, program of study, educational planning, and awards for your area. Are there any equity gaps that you will address in the next 3 years?

Data Summary:

a. **Success: According to the dashboard it appears Hispanic Males have been disproportionately impacted in success rates for the past three academic years within the ENE Discipline.**

b. **Retention: According to the dashboard it appears Hispanic Males have been disproportionately impacted in retention rates for the past three academic years within the ENE Discipline.**

c. Program of Study:

i. Pre-Engineering:

1. Female: The number of students with a declared major in Pre-Engineering has been somewhat constant with no growth centering around 93 students from 19/20-22/23 with the exception of year 21/22 which saw a **significant drop** with a low count of 63 students.

2. Male: The number of male students with a declared major in Pre-Engineering has increased gradually & consistently from 19/20-22/23 starting at 305 and ending at 352.

3. Non-binary and Unreported: Both groups had less than 5 reported students with a declared major in Pre-Engineering each year.

d. Educational Planning:

i. Pre-Engineering: No trends were found in disaggregated data.

e. Awards:

Pre-Engineering: No trends were found in disaggregated data

Equity Gaps:

According to the data sumary above the Engineering Program has two equity gaps in Success, and Retention of Hispanic Males.

If there are any concerning trends over the past 3 or more years, or if equity gaps exist, what is your action plan to address them?

Action Plan:

The purpose of this action plan is to address two equity gaps found within the Engineering program in the areas of Success, and Retention for Hispanic Males. To initiate improvement in this area, a new program goal, along with a resource request, has been developed and included in this program review. Over the next three years, the Engineering program at Norco College will then undergo a three phase plan to (1) investigate root cause of the gap, (2) develop and impliment program changes, and (3) monitor the effectiveness of the changes.

Please add any relevant documents here.

Close Equity Gaps

Program/Unit Goal
Close the Success and Retention Equity Gap for Hispanic Males across ENE Courses

Goal Cycle
2024 - 2027

What are you doing now in support of this goal?
This insight is a new finding for the discipline. As such, this is a new goal and no work had been done previouslyspecific to this area.

What are your plans (3-year) regarding this goal?
1. Year 1: Investigate root cause.
2. Year 2: Impliment Corrective Actions.
3. Year 3: Monitor changes.

Please add any relevant documents here.

Mapping
Educational Master Plan (2020-2025): ( )
- 2025 Objective 3.2 - KPI 9 (Student Services):
- 2025 Objective 3.3 - KPI 10 (Student Services):
- 2030 Goal 2: Success:
- 2030 Goal 3: Equity:
- 2030 Goal 4: Professional Development:

Evidence

Evidence Date
03/24/2024

Please provide any assessment data or other evidence that supports this Program/Unit Goal.
See, DI for Hispanic Males on the success and retention dashboard for ENE courses the past three years.

Is there a resource request associated with this Goal?
Yes

If yes, please provide a short description.
Release time and/or Special projects shall be requested since the amount of work required to support this area is not feasible for a single Faculty discipline.

Please add any relevant documents here.

Increase Awards in Pre-Engineering

Program/Unit Goal
Increase Awards in Pre-Engineering and/or successful transfers to Engineering Programs at 4-Year Colleges/Universities.

Goal Cycle
2024 - 2027

What are you doing now in support of this goal?
1. UC Riverside Engineering Transfer MOU.
2. Increasing Course Offereings.
3. Clarify Engineering Pathways.

What are your plans (3-year) regarding this goal?
1.Increase participation in UC Riverside Engineering Transfer MOU.
2. Increasing Course Offereings/ market new courses.

3. Continue to meet with partner institutions to clarify new Engineering Pathways.

4. Investigate why only ~45 Pre-ENE awards are earned annually when the data shows ~400 Pre-ENE declared majors at NC.

Please add any relevant documents here.

Mapping

Educational Master Plan (2020-2025): ( )
- 2025 Objective 2.1 - KPI 4 (Academic Affairs):
- 2025 Objective 2.4 - KPI 6 (Student Services):
- 2030 Goal 2: Success:

Evidence

Evidence Date

03/24/2024

Please provide any assessment data or other evidence that supports this Program/Unit Goal.

See, Pre Engineering Awards vs. Declared Major Data in the Data Review Section.

Is there a resource request associated with this Goal?

Yes

If yes, please provide a short description.

Many actions will be required including curriculum updates to clarify pathways, investigating discontinuities, recruiting students, and correcting systemic roadblocks. Such activities require a significant amount of faculty time which is difficult for a single faculty discipline. Special Projects and/or release time will be needed.

Please add any relevant documents here.

2024 - 2027

1. Which equity-related professional development trainings have members of your area participated in to improve student learning, student support, and/or college support?

Data Equity Fellowship 23/24, Faculty Women of Color National Conference, Guided Pathways Institute

2. What knowledge or skills/techniques have members in your area implemented from these trainings and what changes have you seen?

There have been many techniques implemented from the guided pathways framework including high-impact practices trainings for faculty, Data Equity Fellowship 23/24 in progress, Faculty Women of Color National Conference provided many culturally relevant teaching tools.

3. What additional equity-related professional development/trainings do you seek to better support your area?

Building cultural climates, STEM-specific culturally relevant pedagogy, more non-race/ethnicity equity training such as Neurodivergent, non-binary gender/ sexual orientation, etc.

Please add any relevant documents here.

2024 - 2027

Are all your courses current (within four years)?

No

What percentage of your courses are out of date?

More than 25%

If you have courses that are not current, are they in the curriculum process?

Yes

For out of date courses that are not already in progress of updating, what is your plan? Do you have proposals in progress for all the DE courses you intend to file?

Yes

Do you require help to get your courses up to date?

No

Please add any relevant documents here.

Low Percent Mastery (ENE-35_SLO-3)

Date
11/08/2023

Observation

What did you notice?
The outcome mastery proportion for ENE-35_SLO-3 is 57.9% which compared to the other outcomes which were all above 70%. This is currently the lowest proportion in the dataset.
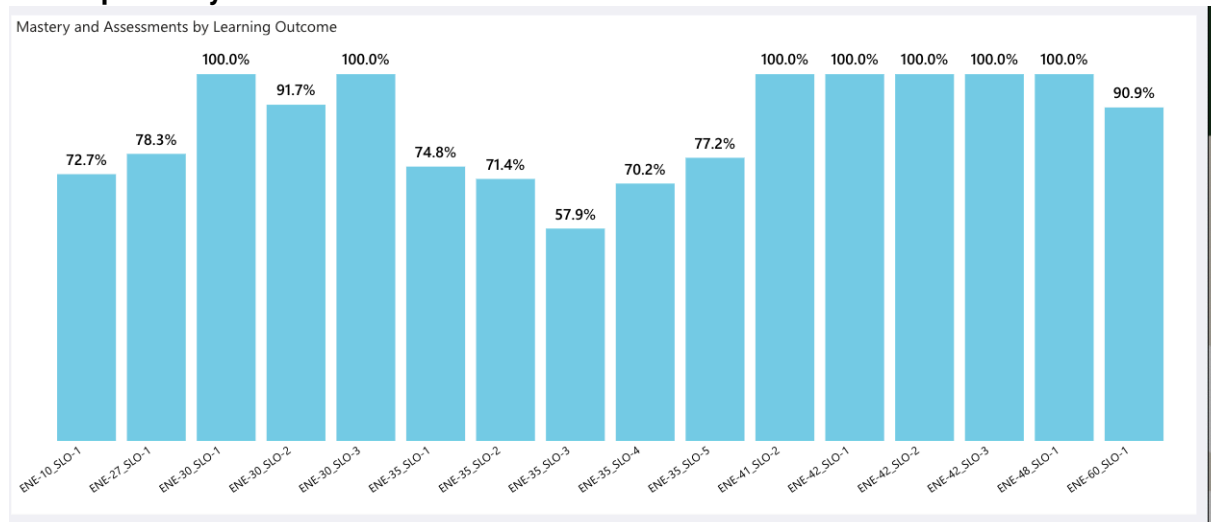
Course(s)
ENE-35

SLO(s)
SLO-3

Discussion/Analysis
The outcome mastery proportion for ENE-35_SLO-3 of 57.9% is concerningly lower than the rest of the outcomes in the dataset. Investigation and potential action is needed for improvement. It is possible that the low value is due to , in large part, a small sample size as Norco College recently revised its assessment process. Because of this, the ENE discipline will monitor (ENE-35_SLO-3) mastery proportion until the end of 23-24 AY at a minimum to ensure an action is taken if the issue remains. If the score is found to remain low upon the end of the 23-24 AY the ENE discipline will initiate an improvement plan. Else, this observation will be closed.

Please paste any relevant screenshots here.

Please add any relevant documents here.

Male engineering student mastery found to be vastly lower than their female peers.

Date
03/24/2024

Observation

What did you notice?
Overall mastery of engineering course outcomes is found to be 71.1% for males (n=98), compared to 92.6% (n=25) for females and 100% (n=2) for unreported gender.
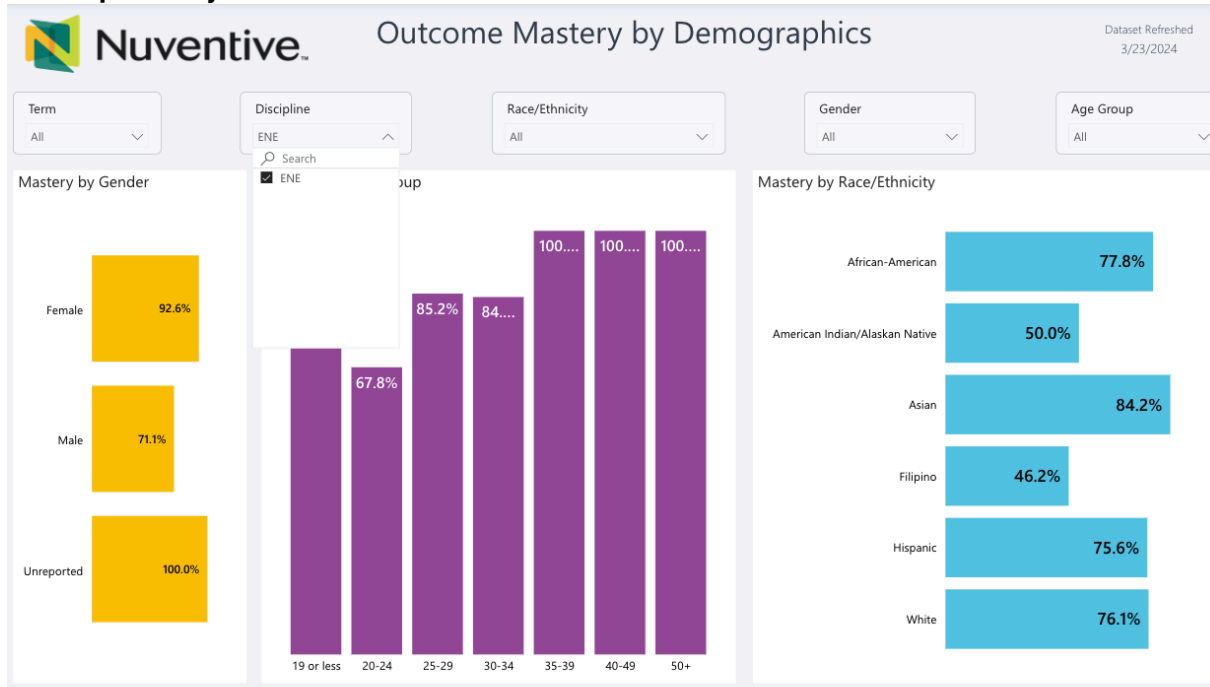
Course(s)
All courses throughout the ENE discipline.

SLO(s)
All outcomes throughout the ENE discipline.

Discussion/Analysis

Please paste any relevant screenshots here.

Please add any relevant documents here.

Faculty Professional Development Requests

2024 - 2027

Program Review Reflections

What would make program review meaningful and relevant for your unit?
What questions do we need to ask to understand your program plans, goals, needs?
What types of data do you need to support your program plans, goals, needs?
If there are any supporting documents you would like to attach, please attach them here.

Submission

All parts of my Program Review have been completed and it is ready for review.

Yes