NORCO COLLEGE

Program Review - Overall Report

2024 - 2027

Instructional: Electronics (ELE)

Overall Trends

Please add any relevant documents here.

What overall trends do you see in success, retention, program of study, educational planning, and awards over the past 3 or more years?
Discussing trends in success, retention, electronic programs of study, educational planning, and awards over the past few years involves exploring multiple dimensions of educational progress and technology adoption in learning institutions. Let's explore these trends based on general observations up to my last update in April 2023:

Success and Retention

- **Increased Focus on Personalization**: There's a significant shift towards personalized learning to improve student success and retention rates. Educational institutions are leveraging data analytics to tailor the learning experience according to individual student needs, preferences, and learning pace.
- **Integration of Support Services**: Schools and universities are integrating more support services (like tutoring, counseling, and career services) within their educational platforms to address barriers to student success and enhance retention.
- **Early Alert Systems**: The adoption of early alert systems, which use data analytics to identify students at risk of dropping out or failing, has become more common. These systems enable timely intervention to support students in need.

Electronic Program of Study

- **Growth of Online and Hybrid Programs**: The availability and acceptance of online and hybrid programs have significantly increased, offering more flexible pathways for students to complete their education. This trend has been accelerated by the COVID-19 pandemic, leading to a lasting impact on how programs are delivered.
- **Adaptive Learning Technologies**: There's a growing use of adaptive learning technologies in electronic programs of study. These technologies adjust the content and pace of learning based on the student's performance, thereby personalizing the learning experience.
- **Competency-Based Education (CBE)**: CBE allows students to progress through their program based on their ability to demonstrate competency in a subject area, rather than on the time spent in class. This approach has gained traction, particularly in online and adult education.

Educational Planning

- **Data-Driven Decision Making**: Institutions are increasingly using data analytics for educational planning, including curriculum development, student support services, and resource allocation. This trend helps in creating more effective and efficient educational environments.
- **Emphasis on Career Readiness**: Educational planning now often includes a stronger emphasis on career readiness, with programs designed to align closely with labor market demands. This includes integrating soft skills, such as communication and teamwork, into curricula.

Awards

- **Recognition of Non-Traditional Learning**: There's a growing recognition of non-traditional learning achievements, such as microcredentials and digital badges. These awards are increasingly seen as valuable supplements to traditional degrees, highlighting specific skills and competencies.

Data Review

- **Focus on Equity and Inclusion**: Awards and recognitions are increasingly focused on promoting equity and inclusion, recognizing achievements and contributions from diverse student populations and underserved communities.

Overall, the trends indicate a shift towards more personalized, flexible, and technology-enhanced education that not only aims at academic success but also at long-term career readiness and inclusivity. These trends are likely to continue evolving as technology advances and as educational institutions seek to respond to the changing needs of students and the labor market.

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?
To proceed with analyzing disaggregated student subgroups in success, retention, program of study, educational planning, and awards, please upload the electronic file containing the relevant data. This file should include detailed information on student outcomes broken down by subgroups (e.g., race/ethnicity, gender, socioeconomic status) to enable a thorough analysis. Once you've uploaded the file,
current plan is to continue working with Elctronic Pathways to recruit female students as well as other disproportionate demographics through partnerships, and events.

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?
Addressing concerning trends or equity gaps in educational outcomes over the past three years involves a strategic, data-informed approach

- **Comprehensive Analysis**: Conduct a thorough analysis of disaggregated data over the past three years to identify trends and gaps in success, retention, program of study, educational planning, and awards among different student subgroups.
- **Identify Patterns**: Look for patterns of underperformance, decreased retention, or other indicators of inequity affecting specific groups.
- **Identify Contributing Factors**: Use the data and stakeholder feedback to identify institutional, systemic, and external factors contributing to equity gaps.
- **Focus Areas**: Prioritize areas where interventions could have the most significant impact.
- **Pilot Programs**: Start with pilot programs to test the effectiveness of new strategies on a smaller scale before wide-scale implementation.
- **Resource Allocation**: Ensure adequate resources are allocated for the implementation of strategies, including staffing, training, and financial support.
- **Establish Metrics**: Define clear metrics for success and regularly monitor these metrics to evaluate the impact of interventions.
- **Adjustments**: Be prepared to make adjustments based on what is working or not working. Continuous improvement should be a key part of the strategy.
- **Regular Updates**: Keep the campus community informed about progress and challenges in addressing equity gaps.

Data Review

- **Celebrate Successes**: Acknowledge and celebrate progress and successes, even small ones, to build momentum and support for ongoing efforts.
- **Ongoing Review**: Regularly review institutional policies and practices to ensure they support equity and do not inadvertently contribute to disparities.
- **Inclusive Excellence**: Strive for inclusive excellence in all aspects of the institution, from admissions to academic programming to campus life.

This action plan requires a commitment to equity and inclusion, a willingness to invest resources, and an openness to change based on evidence and feedback. The goal is to create a more equitable educational environment where all students have the opportunity to succeed.

Please add any relevant documents here.

Program/Unit Goals

EMP GOAL 1Expand college access by increasing both headcount and full-time equivalent students (FTES).

Program/Unit Goal
EMP GOAL 1
Goal Cycle
2024 - 2027
What are you doing now in support of this goal?
To expand college access and increase both headcount and full-time equivalent students (FTES) specifically in an Electronic program, various strategic actions can be undertaken. Here is a structured plan that outlines potential initiatives and actions, blending general strategies with specific approaches tailored to the Electronic program:

- **Curriculum Innovation**: Update the Electronic program's curriculum to reflect current industry trends, emerging technologies, and future skills demands. Incorporating cutting-edge topics like IoT (Internet of Things), wearable technology, and renewable energy systems can attract a broader range of students.
- **Industry Partnerships**: Forge partnerships with electronics companies and tech firms for internships, live projects, and mentorship programs. This not only enhances the program's practical appeal but also demonstrates a pathway to employment for prospective students.
- **Online and Hybrid Options**: Develop online and hybrid course offerings to increase accessibility for students who cannot attend campus due to geographical, financial, or time constraints. This is particularly relevant for working professionals seeking to upskill.
- **Flexible Scheduling**: Offer evening and weekend classes to accommodate working students and those with family commitments.
- **High School STEM Programs**: Collaborate with high schools to offer workshops, summer camps, or guest lectures that showcase the Electronic program and careers in electronics and technology.
- **Digital Marketing Campaigns**: Utilize social media, search engine marketing, and targeted email campaigns to reach potential students interested in electronics and technology fields. Highlighting program outcomes, such as employment rates and alumni success stories, can be particularly effective.

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Implementing these strategies requires a coordinated effort across various departments and stakeholders within the institution, including academic departments, admissions, marketing, financial aid, and career services. By focusing on the unique aspects of the Electronic program and addressing \

Program/Unit Goals

What are your plans (3-year) regarding this goal?

To expand college access and increase both headcount and full-time equivalent students (FTES) in an Electronic program over a three-year period, a strategic plan with clear goals and actionable steps is essential. Here's a structured approach to achieving this objective:

Year 1: Foundation and Engagement

Goals:

- **Increase Enrollment**: Aim for a specific percentage increase in enrollment (e.g., 10% increase in headcount and FTES).
- **Enhance Program Visibility**: Develop and launch a comprehensive marketing campaign targeted at potential students.
- **Strengthen Industry Partnerships**: Establish or deepen at least five significant partnerships with key industry players for internships, scholarships, and job placements.

Actions:

- **Curriculum Review and Update**: Conduct a thorough review of the Electronic program's curriculum to ensure it aligns with current industry standards and emerging technologies.
- **Marketing Campaign Launch**: Utilize digital marketing, social media, and outreach to high schools and community colleges to promote the program.
- **Partnership Development**: Engage with electronics companies and related industries to develop partnerships that offer tangible benefits to students and the program.

Year 2: Expansion and Enhancement

Goals:

- **Diversify Student Intake**: Broaden the demographic and geographic diversity of the student body by targeting underrepresented groups and international students.
- **Implement Flexible Learning Options**: Fully implement online and hybrid course offerings to increase accessibility.
- **Launch Work-Integrated Learning Opportunities**: Formalize internship and co-op programs with industry partners.

Actions:

- **Recruitment Initiatives**: Expand recruitment efforts to target diverse populations through tailored marketing strategies and partnerships with organizations serving underrepresented communities.
- **Online and Hybrid Learning Development**: Invest in technology and faculty training to deliver high-quality online and hybrid courses.
- **Internship and Co-op Program Development**: Work closely with industry partners to create structured work-integrated learning opportunities for students.

Year 3: Consolidation and Growth

Goals:

- **Achieve Enrollment Targets**: Reach or exceed the targeted increase in headcount and FTES set in Year 1.
- **Student Success and Retention**: Improve student retention rates by a specific target (e.g., reduce dropout rates by 5%).
- **Enhance Employment Outcomes**: Increase the employment rate of graduates in the electronics field within six months of graduation by a specific percentage (e.g., 10% increase).

Program/Unit Goals

Actions:

- **Retention Strategies**: Implement academic support services, mentoring, and advising to support student success and retention.
- **Career Services Enhancement**: Enhance career services with more industry-specific job fairs, networking events, and career coaching tailored to the electronics sector.
- **Program Evaluation and Adjustment**: Conduct a comprehensive program evaluation to assess outcomes and areas for improvement. Adjust strategies based on feedback and data analysis to ensure continued growth and success.

Cross-Year Strategies:

- **Continuous Industry Engagement**: Regularly update industry partnerships and curriculum to keep pace with technological advancements.
- **Feedback Loops**: Establish robust mechanisms for collecting and acting on feedback from students, alumni, faculty, and industry partners.
- **Data-Driven Decision-Making**: Use data analytics to monitor progress towards goals, identify areas for improvement, and inform strategic decisions.

This plan aims to not only increase the headcount and FTES but also enhance the quality and relevance of the Electronic program, thereby improving student outcomes and aligning graduates with industry needs. Achieving these goals will require sustained effort, adaptability, and a commitment to excellence and innovation throughout the three-year period.

Please add any relevant documents here.

Mapping

Educational Master Plan (2020-2025): *undefined*

- **2025 Objective 1.4 - KPI 3 (Student Services):** Increase capture rates from feeder high schools by 4% annually (✔)
- **2025 Objective 6.1 (Academic Affairs):** Establish and expand relationships with regional educational institutions (✔)
- **2025 Objective 6.3 (Student Services):** Expand partnerships with regional veterans' services and support organizations (✔)
- **2025 Objective 6.6 (Student Services):** Develop regional outreach and recruitment systems (✔)
- **2030 Goal 1: Access:** Expand college access by increasing both headcount and FTES (✔)
- **2030 Goal 4: Professional Development:** Implement Professional Development around Guided Pathways and equity framework; foster a culture of ongoing improvement. (✔)
- **2030 Goal 5: Workforce and Economic Development:** Reduce working poverty and the skills gap (✔)
- **2030 Goal 9: Workplace/Employees:** Expand workforce to support comprehensive college and develop/sustain excellent workplace culture (✔)

Progress and Evidence

Evidence Date

02/18/2024

Program/Unit Goals

What progress have you made toward this goal?

How do you measure your progress?

Discuss your evidence/results.

Please provide any assessment data or other evidence that supports this Program/Unit Goal.
Yes, the total count of graduates and also increaae headcounts with proposed layout.
Is there a resource request associated with this Goal?
Yes
If yes, please provide a short description.

Please add any relevant documents here.

EMP GOAL 3. Close all student equity gaps.

Program/Unit Goal
EMP GOAL 3. Close all student equity gaps.
Goal Cycle
2024 - 2027
What are you doing now in support of this goal?
Advertise the program through college social media.
Develop ew course certificate and update the current oes.
Offer online/Hybrid classes.
Offer non-credit courses
What are your plans (3-year) regarding this goal?
The plan in the next three years is to increase partnerships throughout the region and hold additional events to inform, inspire and encourage underrepresented students to pursue Electronic degrees
Please add any relevant documents here.

Mapping
Educational Master Plan (2020-2025): *undefined*

- **2025 Objective 1.4 - KPI 3 (Student Services):** Increase capture rates from feeder high schools by 4% annually (✔)
- **2025 Objective 3.5 - KPI 12 (Student Services):** Reduce the equity gap for Foster Youth students by 40% (✔)
- **2025 Objective 7.2 (Academic Senate):** Develop Career & Technical Education programs and industry credentials related to regional needs (✔)
- **2025 Objective 7.6 (Student Services):** Build and support student services to foster student engagement, wellness, and success in the classroom and outside the classroom (✔)
- **2030 Goal 3: Equity:** Close all student equity gaps. (✔)

Progress and Evidence

Evidence Date
02/18/2024
What progress have you made toward this goal?

How do you measure your progress?

Discuss your evidence/results.

Program/Unit Goals

Please provide any assessment data or other evidence that supports this Program/Unit Goal.
yes, adding new trainer
Is there a resource request associated with this Goal?
Yes
If yes, please provide a short description.

Please add any relevant documents here.

Curriculum

Are all your courses current (within four years)?
Yes

What percentage of your courses are out of date?
10% or less

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?
All the courses are up to date

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.

Credit for Prior Learning

Equity Related Professional Development Questions

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

2. What knowledge or skills/techniques have members in your area implemented from these trainings and what changes have you seen?
These workshops help participants recognize and challenge systemic racism within educational institutions. They often cover topics such as unconscious bias, microaggressions, and strategies for creating anti-racist policies and practices.

3. What additional equity-related professional development/trainings do you seek to better support your area?
Digital Equity and Accessibility: As technology becomes increasingly integral to education, training in digital equity and accessibility ensures that all students have equal access to digital resources and learning opportunities, regardless of their socioeconomic status, abilities, or other factors.

Please add any relevant documents here.

Assessment

Rad

Date
11/03/2023
Observation
What did you notice?
every thing map
Course(s)
ELE 10
SLO(s)
Demonstrate quantitative measurement of electrical circuit parameters in direct current (DC) and alternating current (AC) series, parallel, and series-parallel circuits.
Discussion/Analysis

Please paste any relevant screenshots here.
Please add any relevant documents here.

Resource Requests

Electronic

Resource Year
2024 - 2027

What resources do we already have?
Multisim software and PSpice 25 License load in 202 room. Also, Transformers (30) and other peripherals to support the courses. All Electronics class also needs annual replenishment supplies for our student lab kits and replenishment of used stock from out inventory. New computer for Room 202.We also need For ELE 11 and ELE 13 DC and AC Power Supplies . 20 PCB machine to make PCB . 20 PCB software for IT 202 Computer . Desk DMM 20 for tio 202 room

What resources do you need?
New software for ELE 28 and also PCB Design machine . ELE 13,ELE 11, ELE 10, need new Desk DMM 30 of them . ELE 25 need 30 set of IC . ELE 76 need part for new trainer
Release time for single faculty discipline to help revise ELE biomacal Programs

$ Amount Requested
65,980

Resource Type
ITEM: Instructional Supplies

Please summarize how this request supports one or more EMP Goals, Equity goals, your program plans or goals, and/or is supported by outcomes assessment data.
EMP GOAL 7,EMP Goal 3,EMP Goal 5

This request for my area is Priority #:
1

Is this request
New

For Administrative Use Only

Funding Status
In Progress

Notes
Not purchased-working on quote and software request for Multisim.

Council Ranking
13

2025-26 Council Ranking

Mapping
Instructional: Electronics (ELE): *undefined*

- **EMP GOAL 1Expand college access by increasing both headcount and full-time equivalent students (FTES).:** EMP GOAL 1 (✔)
- **EMP GOAL 3. Close all student equity gaps.:** EMP GOAL 3. Close all student equity gaps. (✔)

Electronic part

Resource Year
2025 Update

What resources do we already have?
For the ELE-25 and ELE 28 we currently have old version of software and the need to be updated . Also have existing student Kits for Digital Electronics and ELE 10,11,23 and 13 courses, but many need parts replaced where students have damaged them. Many of our subsystems and components are used up each semester in each Electronics course and require replenishment

Resource Requests

What resources do you need?
For ELE 28 PCB software and PSpice 25 License load in 202 room. Also, 40 Resistance Substitution Box, four stations of Micro Soldering Microscope, SMT SMD Manual Pick and Place Machine MPP1, and other peripherals to support the courses. All Electronics class also needs annual replenishment supplies for our student lab kits and replenishment of used stock from our inventory—a new computer for Room 202. ELE 74 need supplied to support the lecture , and also we need transformers,small motors, indicate LED ,and sequenced meter. For ELE 73 FESTO/LAB_volt EMS . The 5490C series bench multmeters 20 price 22000

$ Amount Requested
78,570

Resource Type
ITEM: Equipment, Services, Software, Furniture

Please summarize how this request supports one or more EMP Goals, Equity goals, your program plans or goals, and/or is supported by outcomes assessment data.
EMP Goal 7, EMP Goal 3, EMP Goal 5

This request for my area is Priority #:
1

Is this request
New

For Administrative Use Only
Funding Status

Notes

Council Ranking

2025-26 Council Ranking

Biomedical Equipment Repair

Resource Year
2025 Update

What resources do we already have?
Multimeters (Digital & Analog)
Oscilloscopes (preferably portable and benchtop)
Function Generators
Soldering Stations (with desoldering tools)
Power Supplies (variable DC power supplies)
Hand Tools (screwdrivers, pliers, wire strippers, tweezers)
ESD Protection (wrist straps, mats)
Breadboards & Jumper Wires
Electronic Components (resistors, capacitors, diodes, transistors, ICs)

What resources do you need?

Resource Requests

We need to have 10 units from each of the following
Biomedical-Specific Equipment
Patient Monitors (ECG, SpO2, BP monitors)
Defibrillators (manual & AEDs)
Infusion Pumps (syringe and volumetric types)
Ventilators (basic models for troubleshooting practice)
Ultrasound Machines (portable models)
X-Ray Machines (simulators, due to radiation safety)
Autoclaves (for sterilization equipment maintenance)
Centrifuges
Electrosurgical Units (ESUs)
Diagnostic & Calibration Tools
Electrical Safety Analyzers (to test leakage currents, ground resistance)
Patient Simulators (ECG, SpO2, BP simulators)
Defibrillator Analyzers
Infusion Pump Analyzers
Vital Signs Simulators
Ultrasound Phantom (for ultrasound machine calibration)

$ Amount Requested
89,000

Resource Type
ITEM: Equipment, Services, Software, Furniture

Please summarize how this request supports one or more EMP Goals, Equity goals, your program plans or goals, and/or is supported by outcomes assessment data.
EMP Goal 7, EMP Goal 3, EMP Goal 5

This request for my area is Priority #:
1

Is this request
New

For Administrative Use Only
Funding Status

Notes

Council Ranking

2025-26 Council Ranking

Electrlectronics Lab Expansion and Industry Alignmentonic

Resource Year
2026 Update

What resources do we already have?
These are items already supporting instruction:

Benchtop Equipment,Oscilloscopes,Function Generators,DC Power Supplies,Digital Multimeters,Soldering Stations

What resources do you need?

Resource Requests

1. Additional Digital Oscilloscopes (4–6 units) 2. Mixed-Signal / Logic Oscilloscopes for Digital courses Modern Function / Arbitrary Waveform Generators Advanced Digital MAltium Designer or higher-end PCB software 4. More student lab benches and ergonomic chairs Secure storage cabinets for kits and components Electronic component 5. restocking (ICs, sensors, transistors) Breadboards, jumper wires, and connectors Solder, flux, desoldering braid PCB blank boards and chemicals Replacement probes and test leads Updated lab manuals printing, Virtual lab software subscriptions.6. Color printer for IT 202

$ Amount Requested
65,805

Resource Type
ITEM: Equipment, Services, Software, Furniture

Please summarize how this request supports one or more EMP Goals, Equity goals, your program plans or goals, and/or is supported by outcomes assessment data.
EMP Goal 7,EMPGoal 3,EMP Goal 5

This request for my area is Priority #:
1

Is this request
New

For Administrative Use Only
Funding Status

Notes

Council Ranking

2025-26 Council Ranking

Biomedical Electronics Lab Establishment and Equipment

Resource Year
2026 Update

What resources do we already have?
Currently used in Electronics courses and available for Biomedical instruction)

Digital Oscilloscopes

Function / Signal Generators

Bench Power Supplies

Digital Multimeters

Soldering & Rework Stations

Logic Analyzers

ESD Mats and Wrist Straps

Component Testers and Probe Kits

What resources do you need?

Resource Requests

For the Resources Needed of a Biomedical Equipment Repair Program, the items required to safely train students on testing, calibration, troubleshooting, and preventive maintenance of medical devices. Reviewers like to see a mix of specialized biomedical equipment + core electronics tools + safety
_1. Patient Monitor Simulator – ECG, SpO,, NIBP simulation2. Defibrillator / AED Analyzer. 3. Electrosurgical Unit (ESU) Analyzer. Infusion Pump Analyzer 4. Electrical Safety Analyzer (leakage current, ground resistance) 5. Vital Signs Simulator 6. Biomedical Test Cables & Adapter Sets 6. Patient bedside monitors (refurbished or training models) 7. Suction machines 8. Pulse oximeters and blood pressure monitors 9. ECG machines 10. Biomedical equipment service manuals database subscriptions.

$ Amount Requested
89,650

Resource Type
ITEM: Equipment, Services, Software, Furniture

Please summarize how this request supports one or more EMP Goals, Equity goals, your program plans or goals, and/or is supported by outcomes assessment data.
EMP Goal 7,EMP Goal 3,EMP GOAL 5

This request for my area is Priority #:
1

Is this request
New

For Administrative Use Only
Funding Status

Notes

Council Ranking

2025-26 Council Ranking

Faculty Professional Development Requests

Faculty Hiring Resource Requests

Program Review Reflections

What would make program review meaningful and relevant for your unit?

1. **Focus on Continuous Improvement**: The program review process should emphasize continuous improvement rather than compliance. It should encourage a culture of ongoing assessment and adaptation, where feedback leads to actionable strategies for enhancement.
2. **Flexibility and Responsiveness**: The review process should be flexible enough to adapt to changing educational landscapes, student needs, and industry demandsV By focusing on these elements, a program review can be both meaningful and relevant, driving improvements that enhance educational quality, ensure program relevance, and ultimately contribute to the success of students and the broader objectives of the unit or institution.. This ensures the program remains relevant and effectively prepares students for the future.

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.