RCCD | RIVERSIDE COMMUNITY COLLEGE DISTRICT

MORENO VALLEY COLLEGE | NORCO COLLEGE | RIVERSIDE CITY COLLEGE

District Technical Review Committee
Meeting Agenda

Tuesday, May 20, 2025	**2:30-4:00pm**	**CAADO 209/Zoom**

Committee Members	Guests
☐ Steven Schmidt (Chair, MUS)	☐ Lijuan Zhai (AVC ES&IE, RCCD)
☐ Eric Bishop (Co-Chair, Int. VC Ed. Services)	☐ Bryan Medina (CPRO, RCCD)
☐ Kelly Douglass (ENG, RCC)	☐ Nicole Banerjee (AO, RCC)
☐ Brian Johnson (MAT, NOR)	☐ Nick Franco (AO, NOR)
☐ Nick Sinigaglia (PHI, MVC)	☐ Deanna Murrell (AO, MVC)
	☐ Sabina Fernandez (CPRO, MVC)
	☐ Casandra Greene (CPRO, RCC)
	☐ Nicole Brown (CPRO, NOR)
Additional Guests:	

Zoom Information

https://rccd-edu.zoom.us/j/86555446612?pwd=R0dDakVkSzNZQitZZEN0Zm1TTlYvQT09
+1 669 900 6833 US
Meeting ID: 865 5544 6612
Passcode: 627472

Call to Order:

Agenda and Minutes

1. Approval of Agenda
   The agenda will be reviewed, discussed, and considered for approval.

2. Approval of Minutes – May 6, 2025
   The minutes will be reviewed, discussed, and considered for approval.

Action Items

1. Curriculum Proposals
   Curriculum proposals will be reviewed, discussed, and considered for forwarding to the College Curriculum Committees.

Discussion Items and Public Comment

1. Convening Councils for Interdisciplinary ADTs – Nick Sinigaglia
2. Upper Division Course Outline Draft – Nick Sinigaglia
3. Curriqunet Origination Permissions – Bryan Medina
4. Curriqunet COR and Form Updates – Bryan Medina
5. Open Forum
6. Public Comment for all items on or not otherwise on the agenda.

Adjournment:

PSF-302 Media, Crisis and Public Communications Course Outline of Record (COR)

Course Description

Media, Crisis and Public Communications is a course designed to analyze the intricate relationship between the media, public communications, and crisis situations. Throughout this course, students will explore the impact of media on public perceptions during times of crisis, and learn effective strategies for managing communication during challenging situations. By studying real-life case studies and theoretical frameworks, students will develop critical thinking skills and practical communication techniques to navigate crisis scenarios effectively.

Course Objectives

Upon successful completion of the course, students should be able to demonstrate the following activities:

1. Evaluate the role of media in shaping public discourse during crises.
2. Apply the steps of the 8-Step Model for Strategic Communications.
3. Compare and contrast the various components of effective public awareness campaigns.
4. Evaluate the role of traditional and social media and of various stakeholders in crisis communications.
5. Analyze the effectiveness of communication strategies in managing crises,
6. Identify key components of successful crisis communication plans,

Student Learning Outcomes

Upon successful completion of the course, students should be able to demonstrate the following skills:

1. Develop a public awareness campaign based on a current social issue, including objectives, target audience, and evaluation metrics.

2. Create a detailed incident/risk communication strategy for a hypothetical crisis situation.

3. Analyze media coverage of a recent crisis and evaluate the effectiveness of communication strategies used.

4. Design a social media plan to disseminate information during a public health emergency.

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Course Content

1. **Introduction to Public Communications**

   o Overview of public information operations

   o Role of a Public Information Officer (PIO)

2. **Communication Models and Strategies**

   o 8-Step Model for Strategic Communications

   o Importance of strategic planning in public awareness campaigns

3. **Understanding Media**

   o Types of media (traditional vs. social)

   o Media relations: Building and maintaining relationships with journalists

4. **Crisis Communications**

   o Definition and significance of crisis communication

   o Stakeholders in crisis situations

   o Case studies of successful and failed crisis communications

5. **Public Awareness Campaigns**

   o Designing and implementing public awareness campaigns

   o Evaluating campaign effectiveness

6. **Social Media in Communication**

   o Leveraging social media for public information

   o Limitations and risks of social media in crisis situations

7. **Cross-Functional Communication in Emergencies**

   o Cooperation with emergency management, homeland security, and public health organizations

   o Communication during public health emergencies

Methods of Instruction

- **Lectures**: Traditional lectures to introduce theoretical concepts.
- **Group Discussions**: Facilitated discussions to encourage peer interaction and critical thinking.
- **Case Studies**: Analysis of real-world scenarios to apply learned concepts.
- **Workshops**: Hands-on sessions for campaign development and media training.
- **Guest Speakers**: Inviting professionals from the field to share insights and experiences.
- **Online Resources**: Utilizing webinars and online materials to supplement learning.

Methods of Evaluation

- **Quizzes and Exams**: Assessing understanding of key concepts and theories.
- **Group Projects**: Evaluating collaboration and application of strategic communication models in campaign development.
- **Presentations**: Students present their public awareness and crisis communication strategies.
- **Reflection Papers**: Written reflections on the learning process and application of course materials.
- **Participation**: Active engagement in discussions and workshops.

Sample Assignments

1. **Campaign Proposal**: Develop a public awareness campaign based on a current social issue, including objectives, target audience, and evaluation metrics.

   Outside-of-Class Component: Conduct research and interviews with target audience members to inform campaign development.

2. **Crisis Communication Plan**: Create a detailed incident/risk communication strategy for a hypothetical crisis situation.

   Outside-of-Class Component: Analyze real-world crisis communication plans from organizations and incorporate best practices into your strategy.

3. **Media Analysis**: Analyze media coverage of a recent crisis and evaluate the effectiveness of communication strategies used.

   Outside-of-Class Component: Track and compile media articles, social media posts, and public responses related to the crisis over a week.

4. **Social Media Strategy**: Design a social media plan to disseminate information during a public health emergency.

   Outside-of-Class Component: Develop sample social media posts and create a content calendar for the rollout of the strategy.

5. **Peer Review of Campaign Proposals:** Provide constructive feedback on classmates' campaign proposals. Create a rubric for evaluation and write a feedback report for each proposal reviewed.

   Outside-of-Class Component: Review at least two classmates' proposals and submit feedback before the next class discussion.

Possible Texts

1. **"Crisis Communication: A Casebook Approach"** by Kathleen Fearn-Banks (available through various libraries).

2. **"The Public Relations Handbook"** by Alison Theaker (check for free resources or excerpts).

3. **Federal Emergency Management Agency (FEMA) Resources**: Various free publications on crisis communication and emergency management.

4. **Centers for Disease Control and Prevention (CDC)**: Public health communication resources and guidelines.

5. **National Institute for Occupational Safety and Health (NIOSH):** Free publications on risk communication.

Technical Review - Curriculum Proposals
Proposals for Review for 05/20/2025

Courses

Course Deletions

		M	N	R	Notes
HLS 50	**Developing a Personal Philosophy of Leadership and Ethics**	☑	☐	☐	
HLS 51	**Leading Others Ethically**	☑	☐	☐	
HLS 52	**Ethical Leadership in Organizations**	☑	☐	☐	
HLS 53	**Ethics and the Challenge of Leadership**	☑	☐	☐	

Course Exclusions

		M	N	R	Notes
H HUM 4H	**Honors Arts and Ideas: Ancient World Through the Late Medieval Period**	☑	☐	☐	
	Holding for History and Philosophy ADT.				
H HUM 5H	**Honors Arts and Ideas: The Renaissance through the Modern Era**	☑	☐	☐	
	Holding for History and Philosophy ADT.				
MUS 1	**Teaching Music to Young Children**	☑	☐	☐	
MUS 36	**Instrumental Chamber Music Ensembles**	☑	☐	☐	
MUS 38	**Beginning Applied Music I**	☑	☐	☐	
MUS 78	**Beginning Applied Music II**	☑	☐	☐	

Course Major Modifications

		M	N	R	Notes
H ELE 10	**Survey of Electronics**	☐	☑	☐	
	Book is from 2010, is there a more updated textbook? Description may need minor edits for punctuation. Also, there is a mirrored non-credit, ELE-810.				
ELE 810	**Survey of Electronics**	☐	☑	☐	
HLS 1	**Introduction to Homeland Security and Terrorism**	☑	☐	☐	
SPA 2H	**Honors Spanish 2**	☑	☐	☐	

Course Minor Modifications

		M	N	R	Notes
COS 60A1	**Cosmetology Concepts Level A1**	☐	☐	☑	
COS 60A2	**Cosmetology Concepts Level A2**	☐	☐	☑	
COS 60B1	**Cosmetology Concepts Level B1**	☐	☐	☑	
COS 60B2	**Cosmetology Concepts Level B2**	☐	☐	☑	

Courses

Course Minor Modifications   M N R   Notes

		M	N	R	Notes
COS 60C1	Cosmetology Concepts Level C1	☐	☐	☑	
COS 60C2	Cosmetology Concepts Level C2	☐	☐	☑	
COS 60D1	Cosmetology Concepts Level D1	☐	☐	☑	
COS 60D2	Cosmetology Concepts Level D2	☐	☐	☑	
H ELC 77	Electrical Theory for Electricians	☐	☑	☐	

Waiting for MAN-77

		M	N	R	Notes
H ELE 77	Electrical Theory for Electricians	☐	☑	☐	
H GEG 30A	Field Studies in Geography	☑	☑	☑	

Waiting on feedback from faculty regarding textbooks.

		M	N	R	Notes
MAN 77	Electrical Theory for Electricians	☐	☑	☐	

Course Reactivation   M N R   Notes

		M	N	R	Notes
ADM 200	Applied Digital Media Work Experience	☑	☐	☑	

Distance Education   M N R   Notes

		M	N	R	Notes
H COMM C1000HDE	Introduction to Public Speaking Honors	☑	☑	☑	

Appeared that only Moreno Valley Honors approved, did not see approval from Norco or Riverside Honors. Proposal should speak to how it meets the requirements for the HTCC seminar requirement.

		M	N	R	Notes
H ELE 826DE	Microcontrollers	☐	☑	☐	

The course is not listed on the minutes attached to the proposal.

New Courses   M N R   Notes

		M	N	R	Notes
H ELE 30	Introduction to Biomedical Equipment	☐	☑	☐	

This course was not included in the minutes. Grammar of the course description may need to be reviewed. Check punctuation in Objectives, SLOs.

		M	N	R	Notes
H ELE 31	Troubleshooting Theory and Methodology	☐	☑	☐	

BMET is listed in course description, but should be spelled out. Courses 31, 33, and 35 may have overlapping content.

		M	N	R	Notes
H ELE 33	Network Troubleshooting and Methodology in Biomedical Equipment	☐	☑	☐	

Has lab content, but it should be in a separate lab section. Courses 31, 33, and 35 may have overlapping content.

		M	N	R	Notes
H ELE 34	Capstone Project for Biomedical Equipment	☐	☑	☐	

Units listed is 2, but the unit calculation comes out to 2.7. May want to revise the hours so it is on an exact unit increment. Formatting in content and evaluation.

Courses

New Courses   M N R   Notes

H   **ELE 35**   **Biomedical Life Support Equipment Troubleshooting and Repair**   ☐ ☑ ☐

Courses 31, 33, and 35 may have overlapping content.

Programs

New Programs   M N R   Notes

Certificate

H   **ELE**   **Biomedical Electronic Equipment Repair**   ☐ ☑ ☐

Conceptual approval from Senate is still forthcoming.

Program Modifications   M N R   Notes

ADT

   EAR   **Elementary Teacher Education: Integrated Programs**   ☐ ☐ ☑

Certificate

H   **MAN**   **Control Systems Specialist**   ☐ ☑ ☐

Holding for courses ELE/MAN-73 and ELE/ELC-77. ELC-77 needs to be added to the narrative as a crosslisted option.

Technical Review - Curriculum Proposals

Proposals for Review for 05/20/2025

Courses

Course Deletions

		M N R	Discussion	Action

HLS 50 — **Developing a Personal Philosophy of Leadership and Ethics** ☑ ☐ ☐

Rationale: This course was being offered in conjunction with the Riverside County Sheriff's Department, who is no longer interested in offering the course. The curriculum was proprietary, and the Sheriff's Department paid for instructors to go to the required instructor training. With the Sheriff's loss of interest, it is no longer feasible to offer this class.

HLS 51 — **Leading Others Ethically** ☑ ☐ ☐

Rationale: This course was being offered in conjunction with the Riverside County Sheriff's Department, who is no longer interested in offering the course. The curriculum was proprietary, and the Sheriff's Department paid for instructors to go to the required instructor training. With the Sheriff's loss of interest, it is no longer feasible to offer this class.

HLS 52 — **Ethical Leadership in Organizations** ☑ ☐ ☐

Rationale: This course was being offered in conjunction with the Riverside County Sheriff's Department, who is no longer interested in offering the course. The curriculum was proprietary, and the Sheriff's Department paid for instructors to go to the required instructor training. With the Sheriff's loss of interest, it is no longer feasible to offer this class.

HLS 53 — **Ethics and the Challenge of Leadership** ☑ ☐ ☐

Rationale: This course was being offered in conjunction with the Riverside County Sheriff's Department, who is no longer interested in offering the course. The curriculum was proprietary, and the Sheriff's Department paid for instructors to go to the required instructor training. With the Sheriff's loss of interest, it is no longer feasible to offer this class.

Technical Review Proposals for 05/20/2025
Proposals marked with a red "H" were held at a previous Tech Review meeting.
Documents in the Programs section without an underline have not yet been received by the Tech Review Committee.

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Courses

Course Exclusions

		M N R	Discussion	Action

H **HUM 4H** **Honors Arts and Ideas: Ancient World Through the Late Medieval Period**   ☑ ☐ ☐   Holding for History and Philosophy ADT.

Rationale: Neither course has been offered at MVC in several years and MVC Honors has no plans to offer them in the foreseeable future. (HUM 10H: Honors World Religions will remain in the catalog as a regular honors offering in the discipline.) MVC has no full-time faculty member in the discipline, so the department member with the secondary FSA is launching the proposal. MVC Honors has voted in favor of the exclusions, minutes attached.

H **HUM 5H** **Honors Arts and Ideas: The Renaissance through the Modern Era**   ☑ ☐ ☐   Holding for History and Philosophy ADT.

Rationale: Neither course has been offered at MVC in several years and MVC Honors has no plans to offer them in the foreseeable future. (HUM 10H: Honors World Religions will remain in the catalog as a regular honors offering in the discipline.) MVC has no full-time faculty member in the discipline, so the department member with the secondary FSA is launching the proposal. MVC Honors has voted in favor of the exclusions, minutes attached.

MUS 1 **Teaching Music to Young Children**   ☑ ☐ ☐

Rationale: This course has only been offered 3 times at MVC: First in 2011, again in 2015 and the last time occurred in the Fall of 2020. It has never reached the cap (in any of those offerings) and the last time it was offered it was extremely low enrolled (6 students at census). This course doesn't fit into any music degree or certificate and the MVC music faculty have no interest in offering it in the future (as it serves no curricular or supporting role within the music program). It is an elective component within the Associate of Science Degree and Certificate of Achievement for Early Childhood Education. However, the ECE at MVC also have no interest in offering it and are planning to complete a program modification to remove this course from their certificate. Therefore, MUS-1 should be excluded from the catalog.

MUS 36 **Instrumental Chamber Music Ensembles**   ☑ ☐ ☐

Rationale: This course has only been offered five times at MVC (between the years 2014-2020). Of those five sections, only the first offering in 2014 reached double digits with regard to student enrollment. The music program does not have the infrastructure to adequately support a traditional chamber music ensemble (string and wind instruments), nor does it seem to have the student interest. For these reasons, this course should be excluded and removed from the Music degrees.

Technical Review Proposals for 05/20/2025
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Courses

Course Exclusions

		M N R	Discussion	Action

MUS 38   **Beginning Applied Music I**   ☑☐☐

Rationale: This course duplicates the function of the requisite applied lesson course—MUS 87 (in fulfillment of the ADT requirement). While this course does provide students with the benefit of 2 additional hours of applied lessons, it comes at the cost of: increased unit count (2 units instead of the 1 unit required for MUS 87) and a doubled lab time requirement (108 hours required for MUS 38 verses the 54 hours required for MUS 87). The benefits from this small amount of added lesson time do not outweigh the costs incurred by both the students and the college. Therefore, it is the recommendation of the Music faculty at MVC to exclude this course from the catalog.

MUS 78   **Beginning Applied Music II**   ☑☐☐

Rationale: This course duplicates the function of the requisite applied lesson course—MUS 87 (in fulfillment of the ADT requirement). While this course does provide students with the benefit of 2 additional hours of applied lessons, it comes at the cost of: increased unit count (2 units instead of the 1 unit required for MUS 87) and a doubled lab time requirement (108 hours required for MUS 78 verses the 54 hours required for MUS 87). The benefits from this small amount of added lesson time do not outweigh the costs incurred by both the students and the college. Therefore, it is the recommendation of the Music faculty at MVC to exclude MUS-78 from the catalog.

Course Major Modifications

		M N R	Discussion	Action

H   **ELE 10**   **Survey of Electronics**   ☐☑☐   Book is from 2010, is there a more updated textbook? Description may need minor edits for punctuation. Also, there is a mirrored non-credit, ELE-810.

Rationale:

ELE 810   **Survey of Electronics**   ☐☑☐

Rationale: Update the book

HLS 1   **Introduction to Homeland Security and Terrorism**   ☑☐☐

Rationale: Added cross-listing to PSF-1 and updated book.

SPA 2H   **Honors Spanish 2**   ☑☐☐

Rationale: Remove reference to Spanish 1H in requisites

Technical Review Proposals for 05/20/2025
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Courses

Course Minor Modifications

			M N R	Discussion	Action

COS 60A1   **Cosmetology Concepts Level A1**   ☐ ☐ ☑
Rationale: Textbook update

COS 60A2   **Cosmetology Concepts Level A2**   ☐ ☐ ☑
Rationale: Textbook update

COS 60B1   **Cosmetology Concepts Level B1**   ☐ ☐ ☑
Rationale: Update course materials

COS 60B2   **Cosmetology Concepts Level B2**   ☐ ☐ ☑
Rationale: Update course materials

COS 60C1   **Cosmetology Concepts Level C1**   ☐ ☐ ☑
Rationale: Update course materials

COS 60C2   **Cosmetology Concepts Level C2**   ☐ ☐ ☑
Rationale: Update course materials

COS 60D1   **Cosmetology Concepts Level D1**   ☐ ☐ ☑
Rationale: Update course materials

COS 60D2   **Cosmetology Concepts Level D2**   ☐ ☐ ☑
Rationale: Update course materials

H   **ELC 77**   **Electrical Theory for Electricians**   ☐ ☑ ☐   Waiting for MAN-77
Rationale: Updating textbook.

H   **ELE 77**   **Electrical Theory for Electricians**   ☐ ☑ ☐
Rationale: Add new book.

H   **GEG 30A**   **Field Studies in Geography**   ☑ ☑ ☑   Waiting on feedback from faculty regarding textbooks.
Rationale: Ensuring COR is up-to-date, less than 4 years old, and has relevant materials updated.

MAN 77   **Electrical Theory for Electricians**   ☐ ☑ ☐
Rationale: Add new book

Technical Review Proposals for 05/20/2025
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Courses

Course Reactivation

		M N R	Discussion	Action

ADM 200   **Applied Digital Media Work Experience**   ☑ ☐ ☑

Rationale: ADM-200, along with ADM-70, create capstone experiences for students who are finishing their graphic design or graphic communication degree/certificate.

Distance Education

		M N R	Discussion	Action

H   **COMM C1000HDE**   **Introduction to Public Speaking Honors**   ☑ ☑ ☑

Rationale:

Appeared that only Moreno Valley Honors approved, did not see approval from Norco or Riverside Honors. Proposal should speak to how it meets the requirements for the HTCC seminar requirement.

H   **ELE 826DE**   **Microcontrollers**   ☐ ☑ ☐

Rationale:

The course is not listed on the minutes attached to the proposal.

New Courses

		M N R	Discussion	Action

H   **ELE 30**   **Introduction to Biomedical Equipment**   ☐ ☑ ☐

Rationale: For students and new healthcare professionals, an introduction to medical equipment is an essential part of their education and training. It lays the foundation for more advanced learning and specialization in specific areas of medicine and medical technology.

This course was not included in the minutes. Grammar of the course description may need to be reviewed. Check punctuation in Objectives, SLOs.

H   **ELE 31**   **Troubleshooting Theory and Methodology**   ☐ ☑ ☐

Rationale: For students and new healthcare professionals, an introduction to medical equipment is an essential part of their education and training. It lays the foundation for more advanced learning and specialization in specific areas of medicine and medical technology.

BMET is listed in course description, but should be spelled out. Courses 31, 33, and 35 may have overlapping content.

H   **ELE 33**   **Network Troubleshooting and Methodology in Biomedical Equipment**   ☐ ☑ ☐

Rationale: For students and new healthcare professionals, an introduction to medical equipment is an essential part of their education and training. It lays the foundation for more advanced learning and specialization in specific areas of medicine and medical technology.

Has lab content, but it should be in a separate lab section. Courses 31, 33, and 35 may have overlapping content.

Technical Review Proposals for 05/20/2025
Proposals marked with a red "H" were held at a previous Tech Review meeting.
Documents in the Programs section without an underline have not yet been received by the Tech Review Committee.

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Courses

New Courses

			M N R	Discussion	Action
H	**ELE 34** Rationale:	**Capstone Project for Biomedical Equipment** Many biomedical equipment technicians (BMETs) pursue certifications such as CBET (Certified Biomedical Equipment Technician). A capstone course can help students prepare for certification exams by reinforcing industry standards. It helps students gain practical experience before entering the workforce, improving their confidence and competence.	☐ ☑ ☐	Units listed is 2, but the unit calculation comes out to 2.7. May want to revise the hours so it is on an exact unit increment. Formatting in content and evaluation.	
H	**ELE 35** Rationale:	**Biomedical Life Support Equipment Troubleshooting and Repair** For students and new healthcare professionals, an introduction to medical equipment is an essential part of their education and training. It lays the foundation for more advanced learning and specialization in specific areas of medicine and medical technology.	☐ ☑ ☐	Courses 31, 33, and 35 may have overlapping content.	

Programs

New Programs

			M N R	Discussion	Action

Certificate

			M N R	Discussion	Action
H	**ELE** Rationale:	**Biomedical Electronic Equipment Repair** The healthcare industry is increasingly reliant on advanced medical technology, creating a strong demand for biomedical equipment technicians (BMETs) who can repair, maintain, and calibrate medical devices. According to the U.S. Bureau of Labor Statistics (BLS), employment for medical equipment repairers is projected to grow by 6% from 2022 to 2032, faster than the average for all occupations. The rise of telemedicine, wearable health devices, and AI-driven diagnostics further amplifies the need for skilled biomedical electronics technicians. A Biomedical Electronic Equipment Repair Program at Norco College would address industry demand, offer high-paying career opportunities, and expand the college's technical education offerings. The program would benefit students, the local healthcare industry, and the broader community by filling a critical workforce gap while supporting Norco College's mission of providing career-focused, hands-on education.	☐ ☑ ☐	Conceptual approval from Senate is still forthcoming.	
	Documents:	**Narrative** **LMI** **Advisory Committee** **Regional Consortium**			

Technical Review Proposals for 05/20/2025
Proposals marked with a red "H" were held at a previous Tech Review meeting.
Documents in the Programs section without an underline have not yet been received by the Tech Review Committee.

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Programs

Program Modifications		M N R	Discussion	Action

ADT

EAR **Elementary Teacher Education: Integrated Programs**   ☐ ☐ ☑

Rationale: Aligning with the updated TMC.

Certificate

H **MAN** **Control Systems Specialist**   ☐ ☑ ☐   Holding for courses ELE/MAN-73 and ELE/ELC-77. ELC-77 needs to be added to the narrative as a crosslisted option.

Rationale: Removing ELE-65 from the course requirements; MAN-33 is already required as an alternative.

Technical Review Proposals for 05/20/2025
Proposals marked with a red "H" were held at a previous Tech Review meeting.
Documents in the Programs section without an underline have not yet been received by the Tech Review Committee.

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Program Outline

Title: Biomedical Electronic Equipment Repair

Originator: Khosrow Rad   **Date** 3/10/2025

Department: AT&T/Electronic

College/Learning Pathway/Engagement Center: Choose an item.

☐ **Moreno Valley College**   ☒ **Norco College**   ☐ **Riverside City College**
(Please note: All degrees and certificates are college specific. If multiple colleges wish to adopt this degree or certificate, a separate proposal and college specific supporting documents are required.)

TOPs Code: 0934.60   **CIP Code:**

Type of Program:
☒ Certificate of Achievement only   ☐ Locally approved certificate (8-units or less) only
☐ Associate Degree only   ☐ Certificate of Achievement <u>and</u> Degree

Type of Associate Degree: ☐ Associate of Arts   ☐ Associate of Science

This is a: ☒ New certificate/degree*   ☐ Modification to an existing certificate/degree

*New programs that require new facilities, positions, capital outlays, or have budgetary impacts must also be approved by Academic Senate and Strategic Planning before being submitted. Has this program been appropriately approved?
                    ☐ Yes, minutes attached   ☐ Approval Pending
                    ☒ No Capital or Budgetary Impacts

If this is a modification to an existing certificate/degree, please specify the changes being made:
(<u>Please be specific</u>! Indicate any changes to title, description, learning outcomes, courses, unit value

Rationale:
(Please note: This information will be presented to the Board of Trustees.)
The healthcare industry is increasingly reliant on advanced medical technology, creating a strong demand for biomedical equipment technicians (BMETs) who can repair, maintain, and calibrate medical devices. According to the U.S. Bureau of Labor Statistics (BLS), employment for medical equipment repairers is projected to grow by 6% from 2022 to 2032, faster than the average for all occupations. The rise of telemedicine, wearable health devices, and AI-driven diagnostics further amplifies the need for skilled biomedical electronics technicians.
A Biomedical Electronic Equipment Repair Program at Norco College would address industry demand, offer high-paying career opportunities, and expand the college's technical education offerings. The program would benefit students, the local healthcare industry, and the broader community by filling a critical workforce gap while supporting Norco College's mission of providing career-focused, hands-on education.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
Revised November 2022

1 | P a g e

Required Documentation

Please submit this form and the documents outlined below to your college's Instructional Program Support Coordinator (IPSC) and the District Technical Review committee via TechReview@rccd.edu. Please do not submit your proposal until all of the documentation below is complete.

All Degrees and Certificates
☒ Evidence of district-wide discipline communication
☒ Department minutes showing approval
☐ Narrative *(see following page)*
☐ Transfer preparation documentation *(only if applicable)*

Degrees and Certificates of 8 Units or More with Vocational TOPs Codes
In addition to the above, all degrees and certificates of 8 units or more with a vocational TOPs code must include the following to be submitted to the State Chancellor's Office for approval.*
☒ Labor Market Information and Analysis *(Required for new programs and modifications.)*
☒ Advisory Committee Recommendation *(Required for new programs and may be required for modifications. Check with the curriculum coordinator at your college to determine if a new recommendation is necessary.)*
☐ Regional Consortium Recommendation *(Required for new programs only.)*

*Certificates between 8 and less than 16 units can be approved locally or can be submitted to the State Chancellor's Office for approval. Certificates of less than 8 units can only be approved locally. However, locally approved certificates will not appear on student transcripts.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
Revised November 2022

2 | P a g e

Program Narrative

Item 1. Program Goals and Objectives
For programs with a vocational TOPs code, must address a valid workforce preparation purpose. For programs with a non-vocational TOPs code, must address a valid workforce preparation, basic skills, civic education, or local purpose. May address transfer preparation if applicable.

Item 2. Catalog Description
Includes program requirements, prerequisite skills or enrollment limitations, program learning outcomes, and information relevant to program goal.

Item 3. Program Requirements
Includes course requirements and sequencing that reflect program goals. For degrees, the GE pattern and calculations used to reach the degree total must be shown following the program requirements table. Course titles and unit values must be exact.

The Biomedical Electronic Equipment Repair program prepares students for entry-level careers in the installation, maintenance, and repair of medical and biomedical electronic equipment used in healthcare settings. The program combines foundational electronics theory with hands-on training in medical instrumentation, emphasizing safety standards, troubleshooting techniques, and compliance with regulatory guidelines such as those set by the FDA and Joint Commission.

Program Requirements:

- Completion of core electronics courses (DC/AC Circuits, Digital Electronics, and Microprocessors)
- Specialized courses in biomedical systems (Medical Instrumentation, Safety & Calibration, and Imaging Systems)
- Hands-on lab experience and an optional industry internship or clinical practicum
- Minimum grade of "C" in all technical courses to progress

Prerequisite Skills or Enrollment Limitations:

- Basic proficiency in mathematics and reading comprehension
- Prior completion of introductory electronics coursework (or instructor approval)
- Physical ability to safely handle tools and sensitive equipment in lab environments
- Enrollment may be limited based on lab space and availability of clinical partners

Student Learning Outcomes:Upon successful completion of the program, students will be able to:

1. Diagnose and repair faults in electronic medical devices using schematics and test equipment.
2. Apply safety and regulatory standards in the servicing of biomedical equipment.
3. Demonstrate proficiency in preventive maintenance and calibration procedures.
4. Communicate effectively with healthcare staff and technical personnel.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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5. Maintain accurate service documentation in compliance with industry standards.

Program Goal:To equip students with the technical skills and professional knowledge necessary to become competent biomedical equipment technicians (BMETs), ready to support healthcare technology in hospitals, clinics, and medical equipment manufacturers.

Required Courses: 33____ units

Course	Title	Units	Sequencing
ELE 10	Survey of Electronics	4	Fall 1,
ELE 11 or ELC 11	DC Electronics	4	Spring 1
ELE 13 Or ELC 13	AC Electronics	4	Spring 1
ELE 25	Digital Techniques	4	Spring1
ELE 23	Electronic Devices and Circuits	4	Summer 1
ELE 30	Introduction to Biomedical equipment	3	Fall 2
ELE 31	Troubleshooting Theory and Methodology	3	Fall 2
ELE 35	Biomedical life Support equipment troubleshooting and Repair	3	Spring 2
ELE 33	Network Troubleshooting and Methodology	2	Spring 2
ELE 34	Capstone project for Biomedical Equipment	2	Spring 2

Total Program Units: __33___ units

Item 4. Master Planning
Must address how the certificate/degree fits in the mission, curriculum, and master planning of the college and higher education in California.
Considering the mission of the college, the Biomedical Electronic Equipment Repair and the Digital Electronic certificate serve the college well by creating more opportunities for student success, such as the "application of emerging technologies" technologies that the community desperately needs so that students can get a head start on their careers. These certificates "provide foundational skills and pathways to technical educational certificates."

Further, in the years to come, we will develop apprenticeships in the two programs which will meet objective 6.1 "expand access to registered apprenticeships, work experience classes and work-based learning opportunities" and Goal 8 "become the regional college of choice by offering a comprehensive range of programs that prepare students for the future and meet employer workforce needs."

Item 5. Enrollment and Completer Projections
Projection of number of students to earn certificate/degree annually.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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- . **San Diego Miramar College (CA)**: Their Biomedical Equipment Technology program sees **30-50 graduates annually**.
- **Community Colleges in Other States**: Programs at **Dallas College (TX) and Milwaukee Area Technical College (WI)** report **graduation rates of 25-40 students per year**.

Considering Norco College's existing **electronics and engineering technology programs** and the **demand for skilled BMETs**, we assume:

- **Initial Year Enrollment**: 30-40 students (pilot phase)
- **Growth Over 5 Years**: With awareness, industry partnerships, and strong job demand, enrollment could grow to **60+ students per year**.

- **Certificate Track (1-year program)**: 60-70% completion rate
- **Associate Degree Track (2-year program)**: 50-60% completion rate

Projected Student Completion Per Year

Year	Certificate Completers	Associate Degree Completers	Total Graduates
Year 1	20-25 students	10-15 students	30-40 students
Year 2	25-30 students	15-20 students	40-50 students
Year 3	30-35 students	20-25 students	50-60 students
Year 4	35-40 students	25-30 students	60-70 students
Year 5	40+ students	30+ students	70+ students

Factors Affecting Enrollment & Completion

Job Market Demand: With a growing need for BMETs, students will be motivated to complete the program for strong career opportunities.
Industry Partnerships: Collaborations with local hospitals and medical companies could boost enrollment through internships and job placement guarantees.
Student Interest & Marketing: Outreach to high school STEM programs and current Norco College students in **electronics, engineering, and health sciences** could increase participation

In the first year, Norco College could expect 30-40 graduates, potentially growing to 70+ students annually within five years. This would significantly impact the **local healthcare technology workforce** and the **college's technical program offerings**.

Item 6. Place of Program in Curriculum/Similar Programs
Must address how the certificate/degree fits in college's existing inventory.

The Biomedical Electronic Equipment repair-focused certificate or degree is a strategic addition to the college's inventory. It enhances program offerings, meets workforce demands,

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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utilizes current resources, and aligns with institutional goals. By adopting this program, the college will better serve students and the community, ensuring graduates are well-prepared for the evolving Madical landscape.

Item 7. Similar Programs at Other Colleges in Service Area
Justification of need for certificate/degree in the region.

The demand for **biomedical equipment technicians (BMETs)** is rising due to the increased reliance on advanced medical technology. The **U.S. Bureau of Labor Statistics (BLS)** projects a **6% job growth from 2022-2032** for medical equipment repairers, faster than the average for other occupations.

- Hospitals, clinics, and medical device manufacturers need trained professionals to **install, maintain, and repair life-saving equipment**, such as ventilators, MRI machines, and defibrillators.
- **An aging workforce** in the field means new technicians are urgently needed to replace retiring professionals.

Item 8. Transfer Preparation Information (if applicable)
If transfer preparation is a component of the certificate/degree, please provide transfer preparation information.
The courses in this proposal are transferable as listed below.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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Program Outline

Title:
 Elementary Teacher Education: Integrated Programs

Originator: Amber Lappin   **Date** 5/13/2025
Department: School of Education & Teacher Preparation
College/Learning Pathway/Engagement Center: Riverside /Education & Teacher Prep

TOPs Code: 4901.20   **CIP Code:**

College: ☐ **Moreno Valley College**   ☐ **Norco College**   ☒ **Riverside City College**
(Please note: ADTs are college specific. If multiple colleges wish to adopt this program, a separate proposal and college specific supporting documents are required.)

Type of ADT: ☒ Associate in Arts for Transfer   ☐ Associate in Science for Transfer

This is a: ☐ New ADT*   ☒ Modification to an existing ADT

*New programs that require new facilities, positions, capital outlays, or have budgetary impacts must also be approved by Academic Senate and Strategic Planning before being submitted. Has this program been appropriately approved?
                         ☐ Yes, minutes attached   ☐ Approval Pending
                         ☐ No Capital or Budgetary Impacts

If this is a modification to an existing ADT, please specify the changes being made:
- *Change title to **Integrated Programs: Elementary Teacher Education** (Formerly- Elementary Teacher Education)*
- *Change MATH 26 to option instead of mandatory*
- *Add EAR 42 to options in list C*

Rationale:
This is to align with the new ADT TMC

Required Documentation:

Please submit this form and the documents outlined below to your college's Instructional Program Support Coordinator (IPSC) and the District Technical Review committee via TechReview@rccd.edu. Please do not submit your proposal until all of the documentation below is complete.

All new and modified ADTs must include the following:
☒ Evidence of district-wide discipline communication
☒ Department minutes showing approval
☒ Narrative *(See next page)*
☒ C-ID or Assist Articulation Information, and the most current TMC Template *(Work with your Articulation Officer to obtain this documentation)*

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD
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Program Narrative

Item 1. Program Goals and Objectives

This degree is designed to facilitate students transferring to the California State University System with an Associate Degree in Elementary Teacher Education for Transfer. With this degree, the student will be prepared to enter into a bachelor's degree Program designed to prepare them to teach in a K-8 classroom. This option prepares students for transfer to CSU to major in either a General Track Liberal Studies Program or an Integrated Liberal Studies/Multiple Subject Teaching Credential Program.
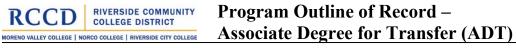
Item 2. Catalog Description

The Associate in Arts in Elementary Teacher Education: Integrated Programs (AA-T) offers lower division coursework examining content area subject matter requirements for teaching at the elementary school level. Students will explore the core principles and practices of a liberal studies curriculum in order to build a foundation appropriate for entry into advanced study in teacher preparation. The students also have the opportunity to participate in supervised fieldwork in K-8 settings.

This degree is designed to facilitate students transferring to the California State University System with an Elementary Teacher Education: Integrated Programs for Transfer. With this degree, the student will be prepared to enter into a bachelor's degree Program designed to prepare them to teach in a K-8 classroom. This option prepares students for transfer to CSU to major in either a General Track Liberal Studies Program or an Integrated Liberal Studies/Multiple Subject Teaching Credential Program.

Required Courses: __27-28__ units

Course	Title	Units
EDU 1	Introduction to Elementary Classroom Teaching	4
COM C1000 or	Public Speaking or	3
COM C1000H	Honors Public Speaking	3
ENGL C1000 or	English Composition or	4
ENGL C1000H	Honors English Composition	4
POLS C1000 or	American Politics or	3
POLS C1000H	Honors American Politics	3
HIS 6 or	United States History to 1877 or	3
HIS 6H	Honors United States History to 1877	3
EAR 20	Child Growth and Development	3
BIO 1 or	General Biology or	4
BIO 1H	Honors General Biology	4
HIS 1 or	World History to 1500	3
ENGL 1B or	Critical Thinking and Writing	4
ENGL 1BH or	Honors Critical Thinking and Writing	4
ENGL 30	Children's Literature	3

Elective Courses 7-9_ units

Course	Title	Units
List A (Select one)		
GEO 4	Earth Science for Educators	4
CHE 10 and	Chemistry for Everyone and	3
PHY 10	Introduction to General Physics	3
List B (Select one)		
ART 6	Art Appreciation	3

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.

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MUS 19	Music Appreciation	3
THE 3	Introduction to the Theater	3
List C (Up to 12 units)		
MAT 26	Math for Elementary School Teachers	4
GEG 2 or	Human Geography or	3
GEG 3	World Regional Geography	3
HIS 26	History of California	3
EAR 42	Child, Family, and Community	3

ASSOCIATE IN ELEMENTARY TEACHER EDUCATION: INTEGRATED PROGRAMS FOR
TRANSFER DEGREE
The Associate of Arts in Elementary Teacher Education: Integrated Programs for Transfer degree will be
awarded upon completion of 60 California State University (CSU) transferable units including the above
major requirements and the Intersegmental General Education Transfer Curriculum (IGETC) or
California State University General Education (CSUGE) requirements and with a minimum grade point
average of 2.0. All courses in the major must be completed with a grade of "C" or better (or a "P" if taken
as Pass/No Pass).

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD   4 | P a g e
Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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Program Outline

Title: Control Systems Specialist

Originator: Paul Van Hulle   **Date** 2/26/2025

Department: AT&A/Manufacturing

College/Learning Pathway/Engagement Center: Choose an item.

☐ **Moreno Valley College**   ☒ **Norco College**   ☐ **Riverside City College**
(Please note: All degrees and certificates are college specific. If multiple colleges wish to adopt this degree or certificate, a separate proposal and college specific supporting documents are required.)

TOPs Code: 0956.00 and 945.00   **CIP Code: 15.0405**

Type of Program:
☒ Certificate of Achievement only   ☐ Locally approved certificate (8-units or less) only
☐ Associate Degree only   ☐ Certificate of Achievement <u>and</u> Degree

Type of Associate Degree: ☐ Associate of Arts   ☐ Associate of Science

This is a: ☐ New certificate/degree*   ☒ Modification to an existing certificate/degree

*New programs that require new facilities, positions, capital outlays, or have budgetary impacts must also be approved by Academic Senate and Strategic Planning before being submitted. Has this program been appropriately approved?
          ☐ Yes, minutes attached   ☐ Approval Pending
          ☒ No Capital or Budgetary Impacts

If this is a modification to an existing certificate/degree, please specify the changes being made:
(<u>Please be specific</u>! Indicate any changes to title, description, learning outcomes, courses, unit values, etc.)

Rationale:
(Please note: This information will be presented to the Board of Trustees.)

SACA certifications are industry-driven, developed for industry by industry. They are developed through a rigorous process that begins with the creation of truly international skill standards, endorsed by leading experts in Industry 4.0 technologies throughout the world. Certification examinations are created based on these standards, pilot tested, and statistically analyzed to ensure quality. Each certification includes a proctored hands-on evaluation and an online test to ensure that candidates for certification can "do" as well as "know." SACA uses an annual review process for all certifications to ensure that standards and examinations remain current and relevant in the fast-changing world of Industry 4.0.

Experts from well-known industry leaders, such as Rockwell Automation, FANUC, Ashley Furniture, Kohler, Foxconn, Boeing, and Hershey, were instrumental in making sure SACA's Industry 4.0 certifications reflect the competencies that industry needs. A list of companies that SACA and Amatrol

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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worked with to develop the certification is included on this website: https://www.saca.org/about-us-smart-automation-certification-alliance/acknowledgments/

SACA sits at the forefront of the effort to certify students and workers who demonstrate the required knowledge and hands-on smart automation skills employers so desperately need. SACA's certifications were developed in conjunction with industry partners who could speak from experience about their needs when it comes to workers able to work alongside a variety of advanced automation technologies.

SACA offers a wide variety of certifications in popular industrial skill areas, including certifications at the Associate, Specialist, and Professional level. For those wishing to focus on building a strong foundation of skills employers need, SACA also offers many micro-credentials that allow students and workers to add certifications as they master new areas.

For workers, SACA certifications can help market their smart automation skills to potential employers. For those employers, SACA certifications represent confirmation that a worker has the skills to hit the ground running in the workplace. To learn more about Industry 4.0 certifications and how SACA can help both future workers and industrial employers begin the task of bridging the Industry 4.0 skills gap, contact SACA for more information.

https://www.saca.org/smart-automation-certifications/#:~:text=SACA%20certifications%20are%20industry%2Ddriven,4.0%20technologies%20throughout%20the%20world.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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Required Documentation

Please submit this form and the documents outlined below to your college's Instructional Program Support Coordinator (IPSC) and the District Technical Review committee via TechReview@rccd.edu. Please do not submit your proposal until all of the documentation below is complete.

All Degrees and Certificates

☒ Evidence of district-wide discipline communication

☒ Department minutes showing approval

☐ Narrative *(see following page)*

☐ Transfer preparation documentation *(only if applicable)*

Degrees and Certificates of 8 Units or More with Vocational TOPs Codes

In addition to the above, all degrees and certificates of 8 units or more with a vocational TOPs code must include the following to be submitted to the State Chancellor's Office for approval.*

☒ Labor Market Information and Analysis *(Required for new programs and modifications.)*

☒ Advisory Committee Recommendation *(Required for new programs and may be required for modifications. Check with the curriculum coordinator at your college to determine if a new recommendation is necessary.)*

☐ Regional Consortium Recommendation *(Required for new programs only.)*

*Certificates between 8 and less than 16 units can be approved locally or can be submitted to the State Chancellor's Office for approval. Certificates of less than 8 units can only be approved locally. However, locally approved certificates will not appear on student transcripts.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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Program Narrative

Item 1. Program Goals and Objectives
For programs with a vocational TOPs code, must address a valid workforce preparation purpose. For programs with a non-vocational TOPs code, must address a valid workforce preparation, basic skills, civic education, or local purpose. May address transfer preparation if applicable.

Item 2. Catalog Description
Includes program requirements, prerequisite skills or enrollment limitations, program learning outcomes, and information relevant to program goal.

Upon successful completion of this program, students should be able to:
• **Demonstrate knowledge of control systems used in industry and manufacturing environments.**
• **Apply problem-solving and analytical thinking in the maintenance, testing, troubleshooting, and repair of industrial mechanical/electrical equipment, industrial controls systems and robotics.**
• **Describe basic electrical circuits and PLC/VFD control theory.**
• **Apply technical math skills to solve problems involving electrical loads/wire sizing, gear ratios.**

Item 3. Program Requirements
Includes course requirements and sequencing that reflect program goals. For degrees, the GE pattern and calculations used to reach the degree total must be shown following the program requirements table. Course titles and unit values must be exact.

Required Courses: _31_ units

Course	Title	Units	Sequencing
MAN 10	Manufacturing Basic Operations	4	Fall 1
MAN/ELE 64	Programmable Logic Controllers	3	Winter 1
ELE/ELC 77	Electrical Theory for Electricians	3	Spring 1
ELE/MAN 73	Electric motors and transformers	4	Spring 1
MAN 27	Variable Frequency Drive Systems	2	Summer 1
MAN 28	Motor Control Troubleshooting 1	3	Fall 2
ELE/ELC/MAN 74	Industrial Wiring and Controls	4	Fall 2
ELE/ELC 75	Solid State Devices and Lighting Controls	3	Fall 1
MAN 15	Industry 4.0 Total Productive Maintenance	2	Winter 2
MAN 33	Programmable Controller Troubleshooting 1	4	Spring 2

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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Total Program Units: 32 units

Item 4. Master Planning
Must address how the certificate/degree fits in the mission, curriculum, and master planning of the college and higher education in California.

Considering the mission of the college the robotics program and the controls certificate serves the college well by creating more opportunities for student success such as "application of emerging technologies" technologies that the community desperately needs so that students can get a head start on their careers. These certificates "provide foundational skills and pathways to technical educational certificates."

Further, in the years to come, we will develop apprenticeships in the two programs which will meet objective 6.1 "expand access to registered apprenticeships, work experience classes and work-based learning opportunities" and Goal 8 "become the regional college of choice by offering a comprehensive range of programs that prepare students for the future and meet employer workforce needs."

Item 5. Enrollment and Completer Projections
Projection of number of students to earn certificate/degree annually.

We have LMI data for two different programs including: "Industrial Maintenance and Automation" and "Industrial Automation Technology". This data is the most recent on the COE website (2-26-2025) Norco College is one of three colleges that teaches automation. According to the COE (Center of Excellence for Labor Market Research document from February 2023 Norco College had nine graduates in 0956.00 Manufacturing and Industrial Technology, Industrial Automation/Supply Chain Automation. With this proposal we hope to increase these numbers. Further, this program is highly recommended within the LMI data document. Industrial Maintenance and Automation annual job openings is 434 which represents an increase of 13%. It should also be noted from the graphics below that there is a great demand for control systems technicians in our area.

During the 2017-20 we had 24 students receive awards for manufacturing and industrial technology programs related to robotics and control systems in the Inland Empire/Desert region. By creating this certificate we are hoping to increase the number of students in the industrial automation program.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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Exhibit 1. Five-year projections for the industrial maintenance and automation occupational group, Inland Empire/Desert Region, 2022-2027

Industrial Maintenance and Automation Occupational Group	2022 Jobs	2027 Jobs	5-Yr Job Change	5-Yr % Job Growth	Annual Openings (New + Replacement Jobs)	% of workers age 55+
Industrial Machinery Mechanics	3,429	3,862	433	13%	403	32%
Industrial Engineering Technologists and Technicians	155	181	26	17%	22	30%
Electro-Mechanical and Mechatronics Technologists and Technicians	70	77	7	10%	9	36%
Total	**3,654**	**4,120**	**466**	**13%**	**434**	**32%**

Source: Lightcast 2023.3

Below are two charts showing completion data for "industrial automation technology" and "industrial maintenance and automation"

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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Exhibit 13: Annual average community college awards for manufacturing and industrial technology programs related to industrial automation technology, Inland Empire/Desert Region, Academic Years 2019-2022

TOP 0956.00 – Manufacturing and Industrial Technology	Academic Year 2019-20	Academic Year 2020-21	Academic Year 2021-22	Total CC Annual Average Awards, Academic Years 2019-22
Norco				
Associate Degree	2	3	-	2
Certificate 16 < 30-semester units	10	4	2	5
Certificate 6 < 18-semester units	3	1	2	2
San Bernardino				
Associate Degree	1	-	2	1
Certificate 30 < 60-semester units	1	-	1	1

Industrial Maintenance and Automation in the Inland Empire/Desert Region, September 2023   10

C·O·E CENTERS OF EXCELLENCE FOR LABOR MARKET RESEARCH

TOP 0956.00 – Manufacturing and Industrial Technology	Academic Year 2019-20	Academic Year 2020-21	Academic Year 2021-22	Total CC Annual Average Awards, Academic Years 2019-22
Total	17	8	7	11

Source: COE Supply Resource, May 2023

Exhibit 14: Annual average community college awards for manufacturing and industrial technology programs related to industrial automation technology, Inland Empire/Desert Region, Academic Years 2019-2022

TOP 0956.00 – Manufacturing and Industrial Technology (Local Program Title)	Academic Year 2019-20	Academic Year 2020-21	Academic Year 2021-22	Total CC Annual Average Awards, Academic Years 2019-22
Norco (Industrial Automation/Supply Chain Automation)				9
Associate Degree	2	3	0	2
Certificate 16 < 30-semester units	10	4	2	5
Certificate 6 < 18-semester units	3	1	2	2
Total	15	8	4	9

Source: MIS Data Mart, COCI

*For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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Exhibit 6 displays the employers posting the most job ads for the industrial automation occupational group during the last 12 months. Showing employer names provides insight into where students may find employment after completing a program. Anheuser-Busch posted the most job ads for the industrial machinery mechanics occupation. Cushman & Wakefield, and FedEx posted the most job ads seeking industrial engineering technologists and technicians industrial engineering technologists and technicians workers.

Exhibit 6. Employers posting the most job ads for the industrial maintenance and automation occupational group, Inland Empire/Desert Region, September 2022 through August 2023

Industrial Machinery Mechanics Employers	Unique Job Ads
Anheuser-Busch	22
BlueTriton Brands	8
Niagara Bottling	7
Industrial Engineering Technologists and Technicians Employers	**Unique Job Ads**
Cushman & Wakefield	21
FedEx	21
Flag Solutions	16
Burrtec	16
CalPortland	13
Harbor Freight Tools	11
Electrical and Electronics Repairers, Commercial and Industrial Equipment Employers	**Unique Job Ads**
N/A	

Source: Lightcast 2023.3

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk.
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Summary of Findings & Recommendation

The knowledge, skills, and abilities trained by three industrial maintenance and automation-related community college programs leads to three middle-skill occupations. These three occupations are projected to have 434 annual job openings, increasing employment by 13% over the next five years. The median hourly earnings for these occupations are between $29.05 and $29.86, above the regional living wage standard of $21.82 per hour.

Four regional community colleges offer three TOP program codes related to industrial maintenance and automation program training: electro-mechanical technology (0935.00), industrial systems technology and maintenance (0945.00), and manufacturing and industrial technology (0956.00). Over the last three academic years (2019-2022), these programs issued an annual average of 34 awards: 11 associate degrees and 23 certificates of achievement. Other regional postsecondary education institutions have not issued any known awards in related programs over the previous three academic years.

The Centers of Excellence recommends expanding industrial maintenance and automation programs to meet the regional demand for more workers in this field. Colleges considering this program should partner with relevant employers and confirm their demand for workers and the skills students need to secure work and self-sustainable earings in this field shortly after exiting the program.

Contact
Michael Goss
Paul Vaccher
Centers of Excellence, Inland Empire/Desert Region
michael.goss@chaffey.edu

Item 6. Place of Program in Curriculum/Similar Programs
Must address how the certificate/degree fits in college's existing inventory.

The Industrial Automation program should be shown in the Manufacturing, Electronics and Electrician programs.

Many of the courses that are in this program are also in the Supply Chain Automation, Digital Electronics, and the Electrician programs. We will also be creating a new robotics program that will have some of the courses that are in the Industrial Automation program.

Item 7. Similar Programs at Other Colleges in Service Area

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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Justification of need for certificate/degree in the region.

Justification of need for certificate/degree in the region.

Examining the graphic shown below from the Centers of excellence for labor market research.

Exhibit 10: Industrial maintenance and automation programs, Inland Empire/Desert Region, 2022-23 academic year

TOP Program (TOP Code)	College	Local Program Title	Award
Electro-Mechanical Technology (0935.00)	Chaffey	Mechatronics	A.S. Degree
		Mechatronics Level I	Certificate
		Mechatronics Level II	Certificate
		Electromechanical Technology	Certificate
Industrial System Technology and Maintenance (0945.00)	Barstow	Industrial Maintenance Electrical and Instrumentation	Associate Degree
		Industrial Maintenance Mechanic	Associate Degree/Certificate
		Industrial Maintenance Mechanic, Level 2	Certificate
		Industrial Maintenance Mechanic Technology, Level 3	Certificate
		Trade Technician	Noncredit
	San Bernardino Valley	Industrial Automation	Certificate
		Industrial Maintenance	Certificate
		Mechanical Hydraulics/Pneumatics	Certificate
Manufacturing and Industrial Technology (0956.00)	Norco	Industrial Automation	Associate Degree/Certificate
		Industrial Automation Non-Credit	Noncredit
		Supply Chain Automation	Associate Degree/Certificate
		Supply Chain Technology	Associate Degree/Certificate
		Manufacturing Tech-Automated Systems	Associate Degree/Certificate
	San Bernardino Valley	Computer Numerical Control - CAD & CAM	Associate Degree/Certificate

Source: COCI, 2022-23 Community College Catalogs

Exhibits 11 – 13 display student completions for electro-mechanical technology (TOP 0935.00), industrial systems technology and maintenance (0945.00), and manufacturing and industrial technology (0956.00) programs related to industrial maintenance and automation programs over the last three academic years, 2019-2022. Over the last three academic years, these programs issued an annual average of 34 awards; 11 awards were associate degrees, and 23 were certificates of achievement. Program completion and student outcome methodologies can be found in the appendix.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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Item 8. Transfer Preparation Information (if applicable)
If transfer preparation is a component of the certificate/degree, please provide transfer preparation information.

None, this certificate does not transfer to any other colleges/universities currently.

For additional information, please see the Program and Course Approval Handbook (PCAH), the RCCD Curriculum Handbook, the Taxonomy of Programs manual, and the TOPs/CIP/SOC crosswalk. Revised November 2022

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