

Comprehensive Program Review Report



Program Review - Industry and Technology

Program Summary

2020-2021

Prepared by: Travis Asher, Mario Bringetto, Scott Williams

What are the strengths of your area?: 1. Strong academic cohorts, programs, and courses across multiple campuses.

2. Academic programs are strategically tied to workforce expectations. This helps ensure robust career opportunities for graduates. Recent data collection indicates approximately eighty-five percent of students are employed in the field or are continuing their education to pursue a BS.

3. Strong industry advisory board and industry relationships that ensure curriculum and instruction align to employer expectations.

4. Utilizing real world trainers creates a realistic learning atmosphere and encourages engagement.

5. Faculty coming from industry are a benefit to the program because they have been recently employed in the career they instruct.

6. Offering multiple certificate levels gives students more options on how advanced the training they receive will be.

What improvements are needed?: Resources to improve the instructors' ability to provide effective training and instruction in the event of an emergency distance education order. These resources should allow students some level of hands-on lab exercises that can be completed off-campus by the students and demonstrated to the instructor remotely over a virtual meeting platform. Possible resource suggestions are listed below.

-Simulation software licensing

-Instructor training

-Portable lab trainers for at-home use by students

Updated equipment and motor control areas and welding supplies and accessories. Automation program is in need of automation process trainers, along with other measurement trainers.

Describe any external opportunities or challenges.: The COVID-19 pandemic has created added challenges for the department to effectively train students using hands-on learning methods.

There are new opportunities for partnerships with two local companies to provide apprenticeships that would enable their current maintenance employees complete the Industrial Automation program while working full-time. Both California Dairies Inc. and Amazon have expressed interest in partnering with the program to facilitate such apprenticeships.

Businesses have requested training to be done by the department. Presenting curriculum and training material needs.

External opportunities outside of the program are the student success program. Students who choose to enroll in the program have support in a variety of skills like study skills, time management, and employment preparation.

Overall SLO Achievement: Students who have mastered all SLO's generally have no problem with finding employment upon completion of the program. Students have generally excelled at outcomes with only a few related to motor controls indicating a need for change. SLO achievement have led to job placement within the industry.

Changes Based on SLO Achievement: Reviewing the SLO's it is noted that more motor control skills are necessary for students.

This is particularly important for their advancement within the industry. Instructors are reviewing and updating course materials to address this need. Utilizing the program advisory committee to keep current with employment needs are critical to making sure the changes made are effective.

Overall PLO Achievement: PLO achievements are good and mirror comments by employers. Students are meeting PLO expectations and employers confirm their preparedness for maintenance and controls technicians.

Changes Based on PLO Achievement: As noted above, based upon employer feedback, instructors feel positive about the alignment of PLOs with industry expectations. However, an emphasis should be placed for students to take the advanced course in automation for additional employment opportunities.

Outcome cycle evaluation: This program area distributes SLO/PLO assessment across three years. This has worked well as it is a manageable timeline and generally provides relevant information to instructors within a time frame that can inform instructional modification. Programs are meeting and exceeding the SLO and PLO requirements. Emphasis needs to be placed on keeping our curriculum current with workplace technology.

Action: Instruction of welding machine maintenance and optimal functionality.

Instruct students in the maintenance and operational upkeep of welding machines.

Leave Blank:

Implementation Timeline: 2019 - 2020

Leave Blank:

Leave Blank:

Identify related course/program outcomes: Industrial Maintenance Program
ITEC112 Welding Practices.

- 1 SLO #1. Welding Principles 1: The student will use welding equipment safely.
- 2 SLO #2 Welding Principles: The student will be able to strike and run a MIG weld bead
- 3 Weld steel with a MIG process.: the student will be able to choose setting and weld wire to effectively join steel with a MIG weld.

PLO4 Welding Upon completion of the program in Industrial Maintenance, students will be able to weld in three modes: MIG, STICK, TIG, and fabrication to industrial maintenance standards. (Active)

DO 2.1

DO 2.4

Person(s) Responsible (Name and Position): Scott Williams, Mario Bringetto

Rationale (With supporting data): Advisory committee members affirm the need to improve student skill development in this area.

Priority: Medium

Safety Issue: Yes

External Mandate: No

Safety/Mandate Explanation: Welding machines must be kept in excellent condition to be safe for student use.

Update on Action

Updates

Update Year: 2020 - 2021

10/13/2020

Status: Action Completed

Student instruction of welding machine maintenance and operation has been enhanced by the purchase of welding equipment and curriculum updates.

Impact on District Objectives/Unit Outcomes (Not Required):

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Resources Description

Equipment - Instructional - Consumable parts for MIG, TIG, and SMAW welding machines including: Nozzles, tips, collets, cups, holders, hand torches, etc.

Ranked #2 (Active)

Why is this resource required for this action?: Welding machines must be kept in optimal safe condition for student use.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 4000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years

District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

Action: Improve instruction of industrial process control

Procure various instructional lab equipment and curriculum that supports the advanced skill development for industrial automation.

Leave Blank:

Implementation Timeline: 2019 - 2020

Leave Blank:

Leave Blank:

Identify related course/program outcomes: ITEC 282 SLO#1

Outcome 1 At the completion of this course the student will be able to assess a given process system or industrial application and determine the influence of process variables, choice of measuring and final control elements, and method of automated control. (Active)

ITEC 282 SLO#2

Outcome 2 At the completion of this course the student will be able to accurately interpret a P&ID (piping and instrument diagram) and use devices tags and loop numbers to identify analog current loop components. (Active)

DO 2.1

DO 2.4

Person(s) Responsible (Name and Position): Travis Asher

Rationale (With supporting data): Industry advisory committee specifically recommends the addition of these necessary and relevant skills to include hands-on practice on related equipment.

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2020 - 2021

10/12/2020

Status: Action Completed

The majority of the equipment requested in this action has been purchased.

Impact on District Objectives/Unit Outcomes (Not Required):

Program Review - Industry and Technology

Equipment - Instructional - Robotic arm w/ integrated vision

Ranked #3 (Active)

Why is this resource required for this action?: Robotics are increasing within manufacturing facilities and represent an essential aspect of industrial automation. Employers are asking that graduates have substantial skill development in this high tech, high demand area.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 65000

Equipment - Instructional - Servo drive/motor trainers (qty 6)

Ranked #4 (Active)

Why is this resource required for this action?: Servo drives are used for product handling in modern manufacturing automation facilities and as such, instruction in their operation is required for technicians and designers.

Notes (optional): \$13,000 each

Cost of Request (Nothing will be funded over the amount listed.): 80000

Equipment - Instructional - ControlLogix PLC System

Ranked #11 (Active)

Why is this resource required for this action?: This equipment is the modern standard for smart control and their programming and operation are essential for the highly qualified technician.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 14000

Equipment - Instructional - Thermal Process Control System

Ranked #5 (Active)

Why is this resource required for this action?: These units are commonly used in milk and food processing, pasteurization, and related areas. Local employers and industry advisory partners confirm seeking this knowledge and skill is an essential requirement for technicians.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 32000

Equipment - Instructional - AB Safety Equipment including light curtains, relays, and assorted. (qty 6)

Ranked #6 (Active)

Why is this resource required for this action?: Because this equipment is commonly used in the industrial environment it is expected that a technician is skilled in its operation and programming.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 11000

Equipment - Instructional - Ethernet Switches (qty 6)

Ranked #7 (Active)

Why is this resource required for this action?: System integration is necessary to industrial automation instruction. These components help complete the comprehensive inclusion across all automation technology used in manufacturing facilities.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 14000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years

District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

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Action: Increase student learning through the instruction of industrial sensors and applications

Write curriculum enhancement in the sensors unit of instruction. Obtain sensors to use in the lab portion of course.

Leave Blank: Continued Action

Implementation Timeline: 2019 - 2020

Leave Blank: 09/21/2015

Leave Blank: 05/28/2017

Identify related course/program outcomes: The student will be able to describe the operation of several types of industrial sensors, and perform the wiring installation of these sensors.

Person(s) Responsible (Name and Position): Scott Williams/ Mario Bringetto

Rationale (With supporting data): This knowledge is currently required to employment as an Industrial Maintenance Technician. The Industrial Advisory Committee strongly recommends the implementation of this curriculum for lecture and lab.

Priority: Medium

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2020 - 2021

10/13/2020

Status: Action Completed

Curriculum has been expanded for the sensors unit and hardware for the lab portion has been purchased.

Impact on District Objectives/Unit Outcomes (Not Required):

Resources Description

Instructional equipment - Develop lab exercises through the use of industrial sensors. The project will include the construction of lab trainers, purchase of industrial sensors, and related construction components.

Ranked #10 (Active)

Why is this resource required for this action?: It is essential that students in the Industrial Maintenance Program are up to date with the equipment used in industry because it is a condition of employment for the graduates as they apply for jobs. District Objectives: 2018-2021

District Objective 2.1: Increase the percentage of students who earn an associate degree or certificate (CTE and non-CTE) by 5 percentage points over three years.

District Objective 2.4: By 2021, increase the percentage of CTE students who achieve their employment objectives by 5 percentage points (job closely related to field of study and median change in earnings).

Itec 222 Student Learning Objectives

SLO 2. Upon completion of this course the student will understand and apply solid state theory to the industrial environment.

SLO 3. Upon completion of this course the student will be able to operate, program, and repair smart relays.

SLO 4. Upon completion of this course the student will be able to understand the theory of industrial sensors, and install, program, and repair these devices.

PLO's

PLO 9. Machine automation programming skills The student will have the entry level job skills necessary to program controllers in industry.

PLO 4. Electrical Competency 1 Upon completion of this program the student will have entry level industrial maintenance job skills in the areas of electricity to include: basic electricity, transformers, relays, and wiring. The student will learn troubleshooting and repair skills. (Active)

PLO 5. Electrical Competency II Upon completion of this program the student will be competent in the design and repair of industrial electricity to include motor controls, variable frequency drives, programmable logic controllers, and

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instrumentation.

Notes (optional): Construct six total lab trainers for Visalia and Hanford.

Cost of Request (Nothing will be funded over the amount listed.): 60000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years

District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

District Objectives: 2015-2018

District Objectives - 2.2 - Increase the number of students who earn an associate degree or certificate annually.

District Objectives - 2.4 - Increase Career Technical Education course success rates and program completion annually.

Action: Teacher's Aid

Acquire funding to enhance learning through the use of a Teachers Aid.

The Industrial Maintenance curriculum has four curricular topics occurring in the same laboratory each day. A Teacher's Aid is a necessity for each student to have their questions answered.

Leave Blank: Continued Action

Implementation Timeline: 2019 - 2020

Leave Blank: 01/12/2017

Leave Blank: 05/22/2018

Identify related course/program outcomes: Itec 223 SLO #2 Upon completion of this course the student will be able to identify the different types of GTAW welding in stainless steel, and make recommendations for the proper welding process as encountered in an industrial environment.

1. ITEC 222 SLO #1--Upon completion of this course the student will be able to operate, program, and troubleshoot variable frequency drives

2. Itec 222 SLO # 4. Upon completion of this course the student will be able to understand the theory of industrial sensors, and install, program, and repair these devices.

Itec 224 SLO #1: Upon completion of this course the student will be able to identify the basic components of a fluid power system on a schematic, and use them in an industrial standard circuit.

Itec 224 SLO # 2: Upon completion of this course the student will be able to disassemble and assemble a fluid power circuit and replace a non-working component

PLO's for Industrial Maintenance:

At the end of this program, students will have the entry-level job skills necessary to program controllers in industry.

At the end of this program, students will have entry-level skills in welding to include MIG, Stick, TIG welding and fabrication.

At the end of this program, students will have achieved entry-level skills in the areas of power transmission and distribution, refrigeration, boilers, and building electricity. All aspects include troubleshooting and repair.

At the end of this program, students will have entry-level industrial maintenance job skills in mechanical areas to include industrial mechanics, basic machining operations, and fluid power. This will include troubleshooting and repair skills in these areas

At the end of this program, students will be competent in the design and repair of industrial electricity to include motor controls,

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variable frequency drives, programmable logic controllers, and instrumentation.

At the end of this program, students will entry level industrial maintenance job skills in the areas of electricity to include: basic electricity, transformers, relays, and wiring. The student will learn troubleshooting and repair skills.

Person(s) Responsible (Name and Position): Scott Williams, Mario Bringetto

Rationale (With supporting data): Student learning is improved with additional input and assistance from a Teacher's Aid in the laboratory exercises.

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2020 - 2021

10/12/2020

Status: Action Discontinued
Discontinued.

Impact on District Objectives/Unit Outcomes (Not Required):

Resources Description

Classified- New/Replacement - funding for student aids. (Active)

Why is this resource required for this action?: District Objectives: 2018-2021

District Objective 2.1: Increase the percentage of students who earn an associate degree or certificate (CTE and non-CTE) by 5 percentage points over three years.

District Objective 2.4: By 2021, increase the percentage of CTE students who achieve their employment objectives by 5 percentage points (job closely related to field of study and median change in earnings).

1. ITEC 222 SLO #1--Upon completion of this course the student will be able to operate, program, and troubleshoot variable frequency drives

2. Itec 222 SLO # 4. Upon completion of this course the student will be able to understand the theory of industrial sensors, install, program, and repair these devices.

Student learning in Motor controls is enhanced through the use of up to date motor starter equipment.

The Program Advisory Committee has recommended students have more hands on activities with current and relevant motor control equipment.

The Itec program is ranking this request as a number 2.

PLO's

Electrical Competency 1. Upon completion of this program the student will have entry level industrial maintenance job skills in the areas of electricity to include: basic electricity, transformers, relays, and wiring. The student will learn troubleshooting and repair skills.

Electrical Competency II. Upon completion of this program the student will be competent in the design and repair of industrial electricity to include motor controls, variable frequency drives, programmable logic controllers, and instrumentation.

Welding Competency. Upon completion of this program the student will have entry level skills in welding to include MIG, Stick, TIG welding and fabrication

District Objective 2.4

District Objective 2.1

Departmental Rank: 1

Notes (optional):

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Cost of Request (Nothing will be funded over the amount listed.): 8000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years

District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

District Objectives: 2015-2018

District Objectives - 2.2 - Increase the number of students who earn an associate degree or certificate annually.

District Objectives - 2.4 - Increase Career Technical Education course success rates and program completion annually.

Action: Ongoing effort to improve distance education methods and online instruction.

Transition some traditional labs to an on-line format.

Leave Blank:

Implementation Timeline: 2020 - 2021

Leave Blank:

Leave Blank:

Identify related course/program outcomes:

Person(s) Responsible (Name and Position): Mario Bringetto Instructor

Rationale (With supporting data):

Priority: Low

Safety Issue: No

External Mandate: Yes

Safety/Mandate Explanation:

Resources Description

Equipment - Instructional - Faculty training and lab simulation products (Active)

Why is this resource required for this action?:

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 5000

Action: Maintain and update lab equipment.

Maintain the functionality of lab equipment through the repair and/or replacement of hardware components. Update existing lab equipment with devices and components which reflect modern industry trends in mechanical and electrical technology used in manufacturing.

Leave Blank:

Implementation Timeline: 2020 - 2021

Leave Blank:

Leave Blank:

Identify related course/program outcomes:

Person(s) Responsible (Name and Position): Travis Asher, Scott Williams, Mario Bringetto, Jonna Schengel

Rationale (With supporting data):

Priority: Medium

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

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Action: Improve instruction and skill development in the use of industry applicable hand tools across all instructional areas.

To meet SLO and PLO objectives students require the use of hand tools in laboratory.

Leave Blank: Continued Action

Implementation Timeline: 2019 - 2020

Leave Blank:

Leave Blank:

Identify related course/program outcomes: Itec 213 SLO's

SLO 1. become competent at identifying, repairing, and purchasing standard industrial mechanical parts.

SLO 2. learn the theory of pumps, and be able to identify the main parts of the pump. The student will write a report stating the applications, repair parts, and repair practices of the main types of pumps used in industry.

SLO 3. learn the disassembly and assembly of an industrial gear reducer. The student will learn to identify the main parts, and effect a repair to make the reducer like new. The student will learn the calculations for designing a reducer output speed.

SLO 4. identify and explain the main types of air compressors. The student will learn to make repairs on air compressors. The student will learn the design of an efficient compressed air system, and how to maintain it.

Industrial Maintenance Program PLO's

At the end of this program, students will have the entry level job skills necessary to program controllers in industry.

At the end of this program, students will have entry level skills in welding to include MIG, Stick, TIG welding and fabrication.

At the end of this program, students will have achieved entry level skills in the areas of power transmission and distribution, refrigeration, boilers, and building electricity. All aspects include troubleshooting and repair.

At the end of this program, students will have entry level industrial maintenance job skills in mechanical areas to include industrial mechanics, basic machining operations, and fluid power. This will include troubleshooting and repair skills in these areas

At the end of this program, students will be competent in the design and repair of industrial electricity to include motor controls, variable frequency drives, programmable logic controllers, and instrumentation.

At the end of this program, students will entry level industrial maintenance job skills in the areas of electricity to include: basic electricity, transformers, relays, and wiring. The student will learn troubleshooting and repair skills.

District Objectives: 2015-2018

District Objectives - 2.2 - Increase the number of students who earn an associate degree or certificate annually.

District Objectives - 2.4 - Increase Career Technical Education course success rates and program completion annually.

Person(s) Responsible (Name and Position): Scott Williams/ Mario Bringetto

Rationale (With supporting data): Recommended by the Industrial Advisory Council

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Resources Description

Instructional equipment - Multiple complete hand tool roll away toolboxes with tools as necessary.

Ranked #8 (Active)

Why is this resource required for this action?: These tools are necessary to meet SLO's and PLO for Industrial Maintenance Program.

ITEC 113 SLO's

1. Upon completion of this course the student will be competent at identifying, repairing, and purchasing standard industrial mechanical parts.

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2. Upon completion of this course the student will have learned the theory of pumps, and be able to identify the main parts of the pump. The student will write a report stating the applications, repair parts, and repair practices of the main types of pumps used in industry.
3. Upon completion of this course the student will have learned the disassembly and assembly of an industrial gear reducer. The student will learn to identify the main parts, and effect a repair to make the reducer like new. The student will learn the calculations for designing a reducer.
4. Upon completion of this course the student will be able to identify and explain the main types of air compressors. The student will learn to make repairs on air compressors. The student will learn the design of an efficient compressed air system, and how to maintain it.

PLO's

PLO 6. Mechanical Competency Upon completion of this program the student will have entry level industrial maintenance job skills in mechanical areas to include industrial mechanics, basic machining operations, and fluid power. This will include troubleshooting and repair skills in these areas.

PLO 7. Buildings competency Upon completion of this program the student will have achieved entry level skills in the areas of power transmission and distribution, refrigeration, boilers, and building electricity. All aspects include troubleshooting and repair.

District Objectives: 2018-2021

District Objective 2.1: Increase the percentage of students who earn an associate degree or certificate (CTE and non-CTE) by 5 percentage points over three years.

District Objective 2.4: By 2021, increase the percentage of CTE students who achieve their employment objectives by 5 percentage points (job closely related to field of study and median change in earnings).

Notes (optional): Tools to include two tool boxes with standard wrenches, socket sets, pliers, hammers, bearing pullers, saws, chisel and drift punches, screwdrivers, allen and socket wrenches, files and measuring tools, drills, and other various tools.

Cost of Request (Nothing will be funded over the amount listed.): 5000

Link Actions to District Objectives

District Objectives: 2018-2021

District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years

District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

District Objectives: 2015-2018

District Objectives - 2.2 - Increase the number of students who earn an associate degree or certificate annually.

District Objectives - 2.4 - Increase Career Technical Education course success rates and program completion annually.

Action: Increase student learning through the use of industry-like advanced trainers.

Purchase a complement of related trainers to simulate an industrial system to include the conveyor along with state of the art control systems. To include relay control, programmable logic controller control(update old existing plc's, human-machine interface touch screen display control, software, laptops, and various affiliated equipment.

Leave Blank: Continued Action

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Implementation Timeline: 2019 - 2020

Leave Blank: 10/04/2016

Leave Blank: 06/15/2018

Identify related course/program outcomes: ITEC 274 - Interpret PLC symbols Given a programming diagram, students will be able to interpret the symbols and program objectives and be able to bring the program to industrial standard operational status.
ITEC 274 - Design and explanation of the program competency Given the desired programming outcome, students will be able to design a program to meet original equipment requirements.

Person(s) Responsible (Name and Position): Scott Williams, Mario Bringetto

Rationale (With supporting data): The Industrial Maintenance Technician Program is to provide training in industrial processes, and this equipment and curriculum enhances the skills required to succeed in the workforce. Data; 100% of attendees of the Industrial Advisory Council recommended pursuing this coursework.

Priority: High

Safety Issue: No

External Mandate: Yes

Safety/Mandate Explanation: Industrial Advisory Council to the Industrial Maintenance Program.

Update on Action

Updates

Update Year: 2020 - 2021

10/12/2020

Status: Action Completed

Equipment has been purchased and is in use in lab.

Impact on District Objectives/Unit Outcomes (Not Required):

Resources Description

Equipment - Instructional - Trainer stands, shaft alignment, and various supporting devices.

Ranked #9 (Active)

Why is this resource required for this action?: These pieces of equipment integrate multiple learning concepts and automation systems that reflect typical real-world experiences in manufacturing facilities.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 2000

Link Actions to District Objectives

District Objectives: 2018-2021

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

District Objective 2.1 - Increase the percentage of students who earn an associate degree or certificate (CTE and Non-CTE) by 5 percentage points over three years

District Objective 2.4 - By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

District Objectives: 2015-2018

District Objectives - 2.2 - Increase the number of students who earn an associate degree or certificate annually.

District Objectives - 2.4 - Increase Career Technical Education course success rates and program completion annually.

Action: Improve instruction of process control and instrumentation

Program Review - Industry and Technology

Align process control and instrumentation curriculum and lab exercises with current industry trends .

Leave Blank:

Implementation Timeline: 2020 - 2021

Leave Blank:

Leave Blank:

Identify related course/program outcomes: ITEC 184 Course Outcome 1: Students will be able to troubleshoot and diagnose process instrument devices and instrument loops.

Industrial Automation program PLO 1: Safely demonstrate technical skills required for employment in automation and manufacturing industries.

Person(s) Responsible (Name and Position): Travis Asher

Rationale (With supporting data):

Priority: Medium

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Resources Description

Equipment - Instructional - AB Safety Equipment (light curtains, tether pulls, emergency stops, limit switches, safety relays). (Active)

Why is this resource required for this action?: This equipment is commonly used in the industrial environment it is expected that a technician is skilled in its operation and programming.

Notes (optional):

Cost of Request (Nothing will be funded over the amount listed.): 11000

Equipment - Instructional - Industrial Ethernet Switches (Active)

Why is this resource required for this action?: System integration is necessary to industrial automation instruction. These components help complete the comprehensive inclusion across all automation technology used in manufacturing facilities.

Notes (optional): 20000

Cost of Request (Nothing will be funded over the amount listed.):

Action: Improve efficiency in lab through student work.

Improve the efficiency and organization of laboratory settings and equipment usage through the utilization of student workers.

Leave Blank:

Implementation Timeline: 2020 - 2021

Leave Blank:

Leave Blank:

Identify related course/program outcomes: Industrial Maintenance PLO: Possess entry-level job skills necessary to program controllers in the industry.

Industrial Automation PLO: Safely demonstrate technical skills required for employment in automation and manufacturing industries.

Person(s) Responsible (Name and Position): Scott Williams, Mario Bringetto

Rationale (With supporting data):

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation: