

Comprehensive Program Review Report



Program Review - Ag Technology

Program Summary

2022-2023

Prepared by: Charlie Abee

What are the strengths of your area?: The program has increased in numbers over the past 5 years. The FTES was the highest it has ever been in 2021-2022 with 14.53 FTES compared to the average from 2016 to 2020 of 7.75 FTES

2021-2022 saw the most completers of awards and recipients of awards.

The program success has increased over the last 5 years.

The program has strong industry support.

The program is able to utilize the Tulare College Center Farm to implement the educational pieces of the program.

The number of Full Time Equivalent Faculty has increased to 2.03

What improvements are needed?: The program still struggles to recruit the typical college student.

The program course offering are too long for people involved in industry to take classes.

The industry is changing quickly and the program is working to stay ahead of the curve.

Describe any external opportunities or challenges.: External Opportunities:

The Sustainable Ground Water Management Act signed by Governor Brown in 2014 is in the implementation stage on the farm. Growers are being limited as to the amount of groundwater they can pump. This is being tracked by Evapotranspiration. This is blindsiding some growers. Better water management strategies are needed on the farm. It is estimated that SGMA will cause fallowing of 1 million acres in the San Joaquin Valley. With the current change in climate causing a mega drought growers are having to rely more heavily on ground water. Tulare County is one of the most critically over drafted or over pumped areas in the state of California and faces major challenges.

As minimum wage continues to increase and commodity prices decrease growers are looking at ways to replace human workers with machines and employing higher skilled labor to operate the machinery. This poses an opportunity for the program as people need to be trained on these higher tech machines that are being used on the farm.

Overall SLO Achievement: Achievement on student learning outcomes continues to improve. As the course offerings continue to improve and fewer classes are being canceled data is actual being recorded on more than just 4 students.

Changes Based on SLO Achievement: Offering the courses in a different format is the focus for this year. We have tried getting the students to come to us now we are planning to go to the students.

Overall PLO Achievement: Achievement on program learning outcomes continue to improve. As the number of students in the programs continue to increase actual data is able to be evaluated.

Changes Based on PLO Achievement:

Outcome cycle evaluation: The program is evaluating outcomes from last years cohort of students out of cycle because the courses and program completions have been intermittent in previous years with 0 to 1 student completing programs and some

Action: 2022-23 Objective 1 Develop an Introductory Level Course for the Ag Technology Ag Irrigation Program

An introductory level Ag Technology/Ag Irrigation course will be developed. The instructor will survey industry and program needs to create a course that gives students a basic starting point in Ag Technology/Ag Irrigation.

Leave Blank:

Implementation Timeline: 2022 - 2023

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Identify related course/program outcomes: This Objective Aligns with District Objective 2.4 Increase the percentage of CTE students who achieve their employment objectives by five percentage points (job closely related to field of study and attainment of a livable wage) and the number of CTE students who successfully complete 9+ CTE units in a single year by 10% from 2021-2025.

Person(s) Responsible (Name and Position): Charlie Abee

Rationale (With supporting data): Ag Technology encompasses a large area of agriculture and is women in all facets of agriculture production. Currently there is not a method for giving students a broad strokes overview of agriculture technology and the importance it has in feeding the world in the future with challenges to both labor and water resources. This course will be designed to give an overview of the Ag Technology/Ag Irrigation Field, provide for some career exploration for students and help recruit students into the program.

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Link Actions to District Objectives

District Objectives: 2021-2025

District Objective 2.4 - Increase the percentage of CTE students who achieve their employment objectives by five percentage points (job closely related to field of study and attainment of a livable wage) and the number of CTE students who successfully complete 9+ CTE units in a single year by 10% from 2021-2025.

Action: 2022-2023 Objective 2 Develop and Implement Non Credit Ag Irrigation Training for the Agriculture Industry

During the 2022-23 School year I would like to develop several Non Credit Ag Irrigation Courses that could be delivered to on farm employees to improve their knowledge of best practices for water use and energy efficiency.

Leave Blank:

Implementation Timeline: 2022 - 2023

Leave Blank:

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Identify related course/program outcomes: District Objective 3.1 Reduce equity gaps in course success rates across all departments by 40% from 2021-2025.

Person(s) Responsible (Name and Position): Charlie Abee

Rationale (With supporting data): In 2014 California Governor Jerry Brown signed into law the Sustainable Ground Water Management Act. This law is mandating sustainable use of ground water resources by the year 2040. The Agriculture Division saw this as a need and created Ag Irrigation courses to train people to more efficiently use water. The classes didn't fill because a tradition college path was too difficult for employees to find the time to take classes. The classes were condensed to scheduling 2 days a week allowing students to earn a certificate in 1 semester. Employers and employees still say 2 days a week are a challenge to get off for an entire semester. Therefore the goal of this action is to take the education to the workers. The training in sustainable water use is desperately needed now more than ever. The employees that are managing the water have families to feed may lack reliable transportation may not be able to afford college.

a.) This goal addresses student success because it is taking the education to the student and meeting them at their workplace

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where they will be implementing the knowledge they learn.

b.) This action will allow the instructor to effectively teach more students in a semester because the education will come to the student. This will create stronger relations with the local agriculture community because Tulare County is a critically over drafted sub basin, we are ground zero for pumping allocations and the state is looking at our region to see how we handle the newly implemented regulations. COS has the opportunity to help lift those who work on the farm up and give them the skills to be efficient water managers.

c.) This action will make education more equitable. On farm employees who are not looking for a college degree but want training will get that training brought directly to them. Farm workers cannot afford the fuel or time away from work to get more training to advance in their careers. This training will give those employees a leg up in industry making them are more valuable asset helping them earn a more livable wage.

This action is critical to our local area. We have had feedback from industry at many occasions such as the World Ag Expo, advisory meetings and other trade shows that short term training is what is needed in irrigation. Employers and employees are not overly interested in degrees at this time, but I would say connecting with farm workers and showing them they can do school may prompt some to further their education.

Priority: High

Safety Issue: No

External Mandate: Yes

Safety/Mandate Explanation: This action is to help local industry address the implementation of Ground Water Sustainability Plans. These plans are being implemented in the new Water Year starting October 1st.

Resources Description

Equipment - Non-Instructional - 4 door four wheel drive truck capable of pulling gooseneck trailers (Active)

Why is this resource required for this action?: This resource is required to meet this objective because some of the non credit offerings could be done at a growers farm. The Ag Technology Department has a Mobile Irrigation Technology Trainer that requires a 3/4 ton truck to pull it. The Ag Division had adequate vehicles until one of the vehicles was totaled in an accident. This put the agriculture division behind on a vehicle which would make it difficult to offer these courses on farms sometimes as we have other programs using these vehicles to get materials, animals, take students to competitions and other various activities around the agriculture units.

Notes (optional):

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

Link Actions to District Objectives

District Objectives: 2021-2025

District Objective 3.1 - Reduce equity gaps in course success rates across all departments by 40% from 2021-2025.

Action: 2022-2023, 2021-2022 Objective 3 Ag Mechanics Pathway Development

Establish connections with industry to revitalize the current Ag Mechanics pathway to meet labor market demand. Curriculum, timeline and program activities need to be revitalized

Leave Blank:

Implementation Timeline: 2021 - 2022, 2022 - 2023

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Identify related course/program outcomes: District Objective 2.4 By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

Person(s) Responsible (Name and Position): Charlie Abee

Rationale (With supporting data): In reviewing the Program Review Data the courses in the Ag Technology pathway have low enrollment and are often canceled. This leads to a struggle to get students to complete these programs. LMI data shows there is a need for trained technicians in annual excess of 200 than are being provided currently. AGTC 103, AGTC 106, AGTC 201, AGTC 210 and AGTC 225 will be reviewed along with the Ag Equipment Technician skill certificate to determine the local need and the changes that need to be made to the program and courses.

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Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2022 - 2023

10/10/2022

Status: Continue Action Next Year

The program has been involved with the development of a Regional Ag Tech Curriculum. This process has guided the progress of this objective. As a regional objective is taking shape and focus a more localized plan is coming together. Industry partners are being connected with.

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

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: 2021-2025

District Objective 2.4 - Increase the percentage of CTE students who achieve their employment objectives by five percentage points (job closely related to field of study and attainment of a livable wage) and the number of CTE students who successfully complete 9+ CTE units in a single year by 10% from 2021-2025.

Action: 2022-2023, 2021-2022 Objective 4 Establish Ag Mechanics Industry Partnerships

Jobsite learning is an important concept in CTE. We established industry partners to place Ag Irrigation students at for internships and now would like to do the same thing with the Ag Mechanics side of Ag Technology. These internships may be done concurrently while students are enrolled or interspersed between class sessions.

Leave Blank:

Implementation Timeline: 2021 - 2022, 2022 - 2023

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Identify related course/program outcomes: District Objective 2.4 By 2021, Increase the percentage of CTE students who achieve their employment objectives by 5 percentage points

Person(s) Responsible (Name and Position): Charlie Abee

Rationale (With supporting data): Connection to real world or industry is important for student learning. It allows them to experience what is being taught in the classroom in a real life situation. Current industry is experiencing a labor shortage. Training students while they are placed at an internship site allows the industry partner to evaluate the student to see if they would be a good fit for the company.

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

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Update on Action

Updates

Update Year: 2022 - 2023

10/07/2022

Status: Continue Action Next Year

Connections have been made with industry and more continue to be made. This action is going to be continued this year as development of this program is a large goal this year.

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

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

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District Objectives: 2021-2025

District Objective 2.4 - Increase the percentage of CTE students who achieve their employment objectives by five percentage points (job closely related to field of study and attainment of a livable wage) and the number of CTE students who successfully complete 9+ CTE units in a single year by 10% from 2021-2025.

Action: 2021-2022 Objective 3 Ag Technology Course Review for Equity

During the 2021-2022 school year I would like to review 50% of my courses for their focus on equity and inclusion. It is important to ensure all students feel welcome our courses are inviting to them.

Leave Blank:

Implementation Timeline: 2021 - 2022

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Identify related course/program outcomes: District Goal 3 College of the Sequoias will strategically tailor and implement academic programs and student services that match the unique needs of its student population and the demands of ongoing changes in workforce development.

Person(s) Responsible (Name and Position): Charlie Abee

Rationale (With supporting data): As our lens of focus has changed to include equity in the decision making process it is important to include that at all levels. Therefore I would like to review 50% of my courses utilizing some of the rubrics that have been developed to ensure that my courses are meeting the needs of all of my students.

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2022 - 2023

10/07/2022

Status: Action Completed

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The curriculum committee was able to provide standards for equity and inclusion review. Several courses have been reviewed. There is now a section in the Course Outline of Record focused on equity and inclusion so all courses district wide will be reviewed on equity and inclusion. I am therefore marking this action complete.

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

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

Action: 2021-2022 Objective 4 Expand Equipment Teaching Opportunities

I would like to be able to expand the equipment I am using while teaching AGTC 103 Farm Power and Machinery course. This would allow me to teach safe operation of PTO driven equipment which is a very important skill in the San Joaquin Valley.

Leave Blank:

Implementation Timeline: 2021 - 2022

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Identify related course/program outcomes: District Objective 2.4 By 2021, increase the percentage of CTE students who achieve their employment objective by 5 percentage points.

Person(s) Responsible (Name and Position): Charlie Abee

Rationale (With supporting data): Farm machinery causes many accidents throughout the year. PTO driven equipment is used widely on dairies and farms throughout the area. These pieces of machinery pose special consideration when operating them.

Priority: High

Safety Issue: No

External Mandate: No

Safety/Mandate Explanation:

Update on Action

Updates

Update Year: 2022 - 2023

10/07/2022

Status: Action Completed

The manure spreader was purchased. I was able to use this manure spreader as a teaching tool in the AGTC 103 class, Students were able to safely and properly connect and disconnect a PTO Powered farm implement. The skill will continue to be taught in the course.

Impact on District Objectives/Unit Outcomes (Not Required): This is allowing students to be more prepared for successful employment in the agriculture industry.

Resources Description

Equipment - Instructional - 140 cubic foot powdered coated standard manure spreader with PTO drive. (Active)

Why is this resource required for this action?: This piece of equipment serves multiple purposes. It will allow me to teach safety around PTO driven equipment which are commonly used in the area on farms and dairies. It will also help serve other departments within the ag division like plant science and ornamental horticulture by providing them the ability to spread compost in their open areas used for planting to help improve soil health and fertility. It will also provide assistance to the animal science department as it provides an outlet for animal waste to be composted along with bedding. This unit

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will help create a sustainable cycle of energy movement through the COS Ag Units from Animal Science to Ornamental Horticulture and Plant Science. It will allow Ag Technology students to utilize the equipment to spread the compost in a safe manner.

Notes (optional):

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

Related Documents:

[PTO Drive Manure Spreader.pdf](#)

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