Reedley College

Mechanized Agriculture



**Program Review**

**Cycle Four**

### Program Review Self-Study: Instructional Programs

Please respond to the following statements in order. They are designed to create a thread of narration.

**I. General Information**

A. List the Instructional Area(s)

**Mechanized Agriculture**

B. The program is offered:

x **Reedley College** ☐Madera Center ☐Oakhurst Site ☐Distance Education

If program is offered at more than one campus site, these sites must be referenced where appropriate.

C. List California Community College Chancellor’s Office Taxonomy of Programs (TOP) Code (found on Blackboard—RC Program Review, Documents, Handbook and Supporting Documents)

Code (found on Blackboard—RC Program Review, Documents, Handbook and Supporting Documents)

**0116.00**

**8180.AS**

**8180.CA**

**8181.CA**

**8182.CA**

D. General description of program(s) or service(s) offered:

**The Mechanized Agriculture program at Reedley College offers a two-year associate degree as well as three certificates for students interested in service and repair of diesel powered equipment.**

D1. Current staffing (full-time and part-time faculty, staff, student aides, etc.);

**Faculty/Staff in Program – Three Fulltime instructors:**

**Gary Wenter, B.S. Animal Science, Fresno State; M.S. Agriculture, Cal Poly, SLO.**

**Larry Dinis, B.S Agriculture Education, Fresno State: M.S Agriculture, Cal Poly, SLO.**

**Nick Deftereos, B.S Agriculture Education, Fresno State: M.S Agriculture, Cal Poly, SLO.**

**Four part time instructors:**

**Ross Wicks – A.S. Agriculture, Reedley College**

**Mo Tabutol – A.S Agriculture, Reedley College**

**Dean Menard – B.S. Criminal Justice, Fresno State University**

**Joseph Krahn – B.S Business, Fresno State University**

**One full-time Instructional Technician**

**Gary DePriest – A.S. Agriculture, Reedley College**

D2. Listing of courses in the program area including transfer/degree applicable, degree applicable/non-transfer, non-degree applicable, and non-credit;

**MAG 20 – Diesel Engines, Service Fundamentals and Machine Systems**

**MAG 21 – Transmissions and Torque Converters and Air Conditioning**

**MAG 30 – Electrical, Hydraulics and Welding**

**MAG 31 – Fuel Systems and Undercarriage**

**MAG 19V – Cooperative Work Experience**

**(All courses above are degree applicable and non-transferrable)**

**MAG 40 – Introduction to Agricultural Mechanics**

**MAG 41 – Introduction to Agriculture Welding (non-transferable)**

**MAG 42 – Small Gasoline and Diesel Engines**

**MAG 43 – Electrical and Hydraulic Fundamentals (non-transferable)**

**MAG 44 – Agriculture Welding & Fabrication**

D3. list of degrees and certificates;

**AS Degree in Mechanized Agriculture**

**Certificate of Achievement in Mechanized Agriculture**

**Certificate of Achievement for MAG 20 & 21 (Equipment Technician Level I)**

**Certificate of Achievement for MAG 30 & 31 (Equipment Technician Level II)**

**Certificate of Achievement in Agricultural Mechanics**

**Associate of Science in Agricultural Mechanics**

D3. Does your program allow AP credit;

☐ Yes **xNo**

C4. Does your program have articulation agreements (eg. 2+2, Occutrack);

☐ Yes **xNo**

**All courses in the Mechanized Agriculture Program are taught in a block schedule format making articulation impossible.**

D5. Brief facilities overview;

**Facilities include a 7,200 sq. ft. shop consisting of two shop floor spaces, classroom space, offices, storage, and restrooms. A 4,320 sq. ft. concrete apron partially covered and equipped with a two-ton bridge crane allows for outside instruction. All shop instruction in MAG 31 Fuels and Undercarriage classes takes place outdoors under the shop apron because of shop crowding. When the cover and crane were installed it was determined that two above ground fuel tanks prohibited the entire area from being covered. Those tanks have since been relocated and the area can now facilitate a cover and crane. A large adjoining equipment yard provides adequate space for tractor and equipment storage and building expansion. There is a covered shade structure that runs the length of one side of the equipment yard where a number of trucks and tractors are parked. Many more are left out in the weather and could benefit from a similar structure built along the opposite side of the yard. There are eight sea-train storage units that provide storage for engines, transmissions, and other instructional equipment. Students and instructors constantly shuttle components and training aids in and out of the storage units to help free up valuable shop and work space, as well as keep the components out of the weather. The shop is situated on the eastern side of the equipment yard which is very dust and dirty. Prevailing winds carry dust from the equipment yard into the shop. The equipment yard is sloped towards the shop. Rain causes mud and flooding onto the shop apron. Shops have not been modernized since construction. Shop facilities can benefit by painting and updating restrooms and evaporative coolers. Classroom instruction currently takes place in the LSH classroom. There is a smaller classroom in the ag shop building where small group instruction takes placed. This classroom is used for student tutoring and has ten computer stations available to them. A field adjacent to the shop allows for equipment operation and instruction. MAG 30 welding instruction takes place in the IT shop one day per week. MAG 40 Intro to Ag Mechanics currently takes place in the small OH shop behind LSH 1.**

D6. Equipment requirements including ongoing maintenance requirements and costs;

* + - 1. Equipment requirements including ongoing maintenance requirements and costs:

**The program currently has an adequate supply of basic engine, powertrain, and electrical and hydraulic components necessary for instruction. Current trends in the equipment field require emphasis be placed on the acquisition of additional electronic and computer controlled equipment and teaching aids. Systematic and ongoing acquisition of engines, transmissions, hydraulic and electrical components, and other training aids are necessary to remain current with industry trends and accreditation requirements.**

**The mechanized agriculture program is also expanding to include two additional parallel paths to the existing program. One is an agricultural tractor pathway which will require the purchase or acquisition of a number of used ag tractors to give students the hands-on training needed for entry level employment as technicians.**

**A second proposed pathway is for an on-highway instructional program that will provide training specific to the truck and bus industry sectors. There is considerable interest on the part of industry leaders for training opportunities for existing technicians needing to update skills as well as for entry level technicians. Much of the basic skills and concepts taught in our current program is common to all diesel equipment, whether it be used in agriculture, construction or on-highway applications. There are specific areas of training for each that require additional shop space and equipment, along with additional trained faculty.**

**Specific examples of tooling and equipment that will be required are:**

* **Electronic engines meeting current EPA emission requirements**
* **Electro-hydraulic components**
* **Computer/electronically controlled transmissions**
* **Electrical and Electronic diagnostic equipment**
* **Hydraulic diagnostic training aids**
* **Hydraulic diagnostic equipment**
* **Electronic and hydraulic fuel systems**
* **Mobile equipment (construction and agricultural) to provide hands-on instruction.**
* **On highway truck**
* **Specialized tooling specific to machines, components and training aids.**
* **Used agricultural tractors for hands-on repair instruction**
* **On-highway truck air brake training aids.**
* **On-highway chassis training aids.**
* **Basic on-highway transmissions**
* **Shop Lathe**
* **Shop Air Compressor**
* **Updating current facilities (the shop is now 40 years old).**

**The Mechanized Agriculture Program requires an adequate maintenance and repair budget for equipment repairs, training aids, and facilities.**

**Equipment costs are extensive and have for large part been successfully met through college budgets, Perkins funds, donor contributions, and to a large extent, grant monies.**

D7. Supply requirements, if any.

**Supplies for the program are extensive. Funds are needed for**

**engine parts, transmission parts, hydraulic components, electrical**

**supplies, air conditioning supplies, welding supplies, and machine rental**

**and transportation. Supply budgets have been met through college**

**XX0 funds, Perkins funds, various grants, and CAT Excellence funds.**

**Dealership contributions, primarily from Quinn Company and Caterpillar Inc., provide direct monetary contributions to a foundation account, in-kind contributions in the form of equipment and tools, and access to web-based diagnostic software and web based instructional modules.**

E. Mission and Strategic Plan

**The mission of Reedley College is to offer an accessible, student-centered educational environment, which provides high quality, learning opportunities essential in meeting the challenges of a diverse, global community.**

E1. Describe how your program supports the College Mission Statement. Give a few specific examples.

**The Mechanized Agriculture Program supports College’s Mission Statement by:**

* **Providing a program by which students can enter the workforce in as little as 2 semesters.**
* **Students may earn certificates of completion in specific areas of occupational necessity.**
* **Students may enter the program during the Fall or Spring semesters – each of the four courses are currently offered each semester**
* **Instructors are experienced teachers with strong specific industry training – emphasis is placed on staying current with emerging industry trends.**
* **Equipment, supplies and training aids adequately meet the needs of students.**
* **Strong industry ties provide employment opportunities for program completers**
* **A team teaching approach utilizing block scheduling has proven very effective in developing quality entry-level technicians.**
* **Instructional strategies that include embedded counseling, required study-hall, and embedded student tutoring have proven successful.**

E2. Describe how your program supports the College Strategic Plan. Give a few specific examples in the following chart. Actions and results are to be updated annually as a part of the Program Review Annual Report due each May 1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Proposed Implementation Program/Department Name: Program Review Year:** | | | | |
| **Strategic Direction: 1**  **Student Success** | Goal Statement: Reedley College is committed to empowering students to achieve their educational and vocational goals by offering academic guidance and support, career technical training, and opportunities for personal growth that will promote success. | | | |
| Objective : 1.1  Assist students in creating a clear vision towards their educational goals through the development of an educational plan. (DO 1.2) | | | | |
| SPECIFIC  Activity/Project  Manner in which activity supports objective | MEASURABLE  Qualitative Data Baseline Measures Quantitative Data | ACTION  How will you implement this activity/project? | RESULT  FOCUSED | TIMELINE |
| **All students in the program will complete a SEP.** | **Quantitative** | **Utilized a dedicated CTE counselor to assist with student with SEP’s.** | **☐** | **All students will have a SEP by the end of their first semester.** |
| **All students will participate in study time outside of class.** | **Quantitative** | **Students are required to participate in study hall sessions of one hour per week per class.** |  | **Study hall is conducted throughout the semester.** |
| **Embedded tutors will be utilized in all study hall sessions.** | **Quantitative** | **Cat Scholar program recipients serve as tutors in all study hall sessions.** |  | **Tutors are provided throughout the semester.** |

F. In the table below, list only the recommendations deemed substantiated by the Program Review Committee from the previous Program Review and the implementation status of each. Include in the status column any barriers encountered. Add or delete rows as needed.

**Previous Program Goals**

| **Goal** | **Status** | **Outcome** |
| --- | --- | --- |
| 1. Update instructional equipment to reflect current industry trends. (pg 13-14) | **Numerous pieces of equipment have been acquired that have greatly enhanced the instructional program. This includes hydraulic and electrical training aids, transmission and powertrain components, current, electronic engines, mobile equipment including a 420E Backhoe, a 246C Skid Steer, a 299C Multi-Terrain Loader, a 575B Ag Tractor, a 950F Wheel Loader.** | **The effort to update equipment to reflect industry trends has been ongoing and successful. Due to a large influx of funds through the C6 Grant, many training aids and tractors have been acquired which has had a very positive impact on the instructional program.** |
|  |  |  |
| 2. Pursue and complete program accreditation through the AED, Associated Equipment Distributors  (pgs 25-26) | **The Mechanized Ag program is fully accredited with the AED** | **The program received its full accreditation in October of 2011.** |
|  |  |  |
| 3. Create Pathway for Agriculture Equipment Technician  ( pgs 13, 24-25) | **Some agricultural tractors and equipment has been acquired that are being used in class and lab activities. Labs and curriculum have been developed are being used as well.** | **The Agriculture Equipment pathway has been implemented on a limited basis but has not reached completion.** |
|  |  |  |
| 4.Expand shop facility  (pg 13) | **No expansion has taken place.** | **No expansion has taken place.** |
| 5.Expand storage facilities  (pg 13) | **An additional conex storage unit was purchased and a ramp was built to make access to the storage units easier.** | **Storage space has been expanded.** |
|  |  |  |

G. If applicable, in the table below, list the recommendations from the previous accreditation report and the status of each. Include in the status column any barriers encountered.

Previous ACCJC or Other Accreditation Recommendations

|  |  |  |
| --- | --- | --- |
| **Recommendation** | **Status** | **Outcome** |
|  |  |  |
|  |  |  |
|  |  |  |

**II. Quantitative Analysis** These data provide an initial and important framework for review of programs and the program as a whole, for all campus sites. You may choose to only include data which is conclusive to your review and program goals. State why any data sets are not analyzed (ie. In line with the College). You must reference all campus sites where appropriate.

Please note that these data should be integrated with the qualitative analysis and SLO assessment to help support your Summary Statements & Goals

Insert suitable tables provided and formatted by the Institutional Researcher in your report. Additional graphs and charts are acceptable. Please be sure to label tables and charts and reference them by number in the narrative.

A. Provide short written comparative and trend analyses examining program and overall college trends for the data elements listed below. Include in the analyses:

* Significant fluctuations
* Impact of trends on Program
* Possible data elements to support this analysis. Total Enrollment
* Enrollment by Demographics: age, gender, & ethnicity
* Retention
* Success
* Program Mark Analysis Report
* FT/PT Enrollment Status
* WSCH/FTEF
* Number of Degrees/Certificates Awarded
* Perkins Core Indicators (if career-technical education program)
* Additional Data

**The following tables reflect enrollment for those students who were enrolled in Mechanized Agriculture Program**

**ENROLLMENT TRENDS**

**HEADCOUNT (Unduplicated)**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 09FA | 10SP | 10FA | 11SP | 11FA | 12SP | 12FA | 13SP | 13FA | 14SP |
| REEDLEY  COLLEGE | **100** | **89** | **88** | **85** | **85** | **88** | **91** | **80** | **80** | **73** |

* **Enrollment remains very consistent in the program. Small downward fluctuations in enrollment happened when the program went from offering all four block-scheduled courses each semester to a three-course rotation in spring of 2010.**

**ETHNICITY**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REEDLEY COLLEGE | 09FA | 10SP | 10FA | 11SP | 11FA | 12SP | 12FA | 13SP | 13FA | 14SP |
| African-American/  Non-Hispanic | **0%** | **0%** | **0%** | **0%** | **0%** | **1%** | **2%** | **3%** | **1%** | **1%** |
| American Indian/Alaskan | **1%** | **1%** | **2%** | **2%** | **4%** | **2%** | **1%** | **4%** | **1%** | **1%** |
| Asian/Pacific Islander | **0%** | **0%** | **2%** | **1%** | **2%** | **2%** | **2%** | **3%** | **0%** | **0%** |
| Hispanic | **41%** | **47%** | **55%** | **52%** | **58%** | **63%** | **58%** | **63%** | **65%** | **68%** |
| Race/Ethnicity Unknown | **14%** | **13%** | **6%** | **7%** | **5%** | **1%** | **1%** | **1%** | **3%** | **3%** |
| White/ non-Hispanic | **44%** | **38%** | **35%** | **38%** | **32%** | **31%** | **35%** | **28%** | **30%** | **26%** |

* **Ethnicity averages about 70% Hispanic and about 30% Caucasian and other ethnicities, generally reflecting our local diversity. Time to celebrate!**

**GENDER**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REEDLEY COLLEGE | 09FA | 10SP | 10FA | 11SP | 11FA | 12SP | 12FA | 13SP | 13FA | 14SP |
| Female | **2%** | **0%** | **1%** | **1%** | **2%** | **2%** | **1%** | **4%** | **1%** | **0%** |
| Male | **98%** | **100%** | **97%** | **96%** | **95%** | **98%** | **98%** | **95%** | **99%** | **100%** |
| Unreported | **0%** | **0%** | **2%** | **2%** | **2%** | **0%** | **1%** | **1%** | **0%** |  |

* **Gender is overwhelming male which reflects industry trends.**

**AGE CATEGORY**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REEDLEY COLLEGE | 09FA | 10SP | 10FA | 11SP | 11FA | 12SP | 12FA | 13SP | 13FA | 14SP |
| 19 or Less | **50%** | **42%** | **49%** | **39%** | **44%** | **35%** | **33%** | **26%** | **49%** | **42%** |
| 20-24 | **27%** | **40%** | **33%** | **41%** | **40%** | **43%** | **43%** | **44%** | **36%** | **38%** |
| 25-29 | **11%** | **10%** | **10%** | **6%** | **9%** | **13%** | **13%** | **17%** | **7%** | **10%** |
| 30-34 | **4%** | **3%** | **0%** | **4%** | **2%** | **3%** | **3%** | **5%** | **6%** | **8%** |
| 35-39 | **1%** | **1%** | **2%** | **4%** | **2%** | **2%** | **2%** | **3%** | **1%** | **1%** |
| 40-49 | **6%** | **3%** | **5%** | **6%** | **2%** | **3%** | **3%** | **3%** | **0%** | **0%** |
| 50+ | **1%** | **0%** | **1%** | **1%** | **0%** | **0%** | **2%** | **3%** | **0%** | **0%** |
| Not Reported |  |  |  |  |  |  |  |  |  |  |

* **Approximately 75% of students in the program are under 24 years of age, with about 40% coming right out of high school.**

**UNIT LOAD**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REEDLEY COLLEGE | 09FA | 10SP | 10FA | 11SP | 11FA | 12SP | 12FA | 13SP | 13FA | 14SP |
| FULL TIME | **66%** | **56%** | **63%** | **54%** | **61%** | **53%** | **59%** | **65%** | **74%** | **78%** |
| PART TIME | **34%** | **44%** | **38%** | **46%** | **39%** | **47%** | **41%** | **35%** | **26%** | **22%** |

* **A large majority of students are enrolled as full-time students.**

**MARK ANALYSIS**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REEDLEY COLLEGE | 09FA | 10SP | 10FA | 11SP | 11FA | 12SP | 12FA | 13SP | 13FA | 14SP |
| A | **9%** | **14%** | **5%** | **5%** | **8%** | **11%** | **23%** | **11%** | **17%** | **12%** |
| B | **18%** | **23%** | **25%** | **20%** | **27%** | **23%** | **41%** | **44%** | **28%** | **38%** |
| C | **31%** | **31%** | **23%** | **33%** | **28%** | **29%** | **26%** | **29%** | **35%** | **31%** |
| D | **8%** | **15%** | **17%** | **15%** | **15%** | **14%** | **3%** | **9%** | **6%** | **9%** |
| F | **18%** | **9%** | **17%** | **21%** | **14%** | **16%** | **4%** | **6%** | **7%** | **8%** |
| P | **12%** | **0%** | **0%** | **0%** | **0%** | **0%** | **0%** | **0%** | **0%** | **0%** |
| W | **4%** | **7%** | **13%** | **7%** | **8%** | **6%** | **4%** | **1%** | **7%** | **1%** |
| Totals | **150** | **112** | **115** | **116** | **109** | **112** | **137** | **117** | **121** | **106** |

* **There is a steady and noticeable increase in GPA’s. This is attributed to the C6 Grant and the changes and improvements in instructional strategies. (Embedded tutors, on-site counselor, cohort enrollment and required study hall.)**

**STUDENT ACHIEVEMENT INDICATORS**

|  |  |  |  |
| --- | --- | --- | --- |
| Term | GPA | Retention | Successful Completion |
| 09FA | **1.91** | **96%** | **70%** |
| 10SP | **2.19** | **92.90%** | **68.80%** |
| 10FA | **1.83** | **87%** | **53%** |
| 11SP | **1.73** | **93.10%** | **57.80%** |
| 11FA | **2.02** | **91.70%** | **63.30%** |
| 12SP | **2.03** | **93.80%** | **63.40%** |
| 12FA | **2.79** | **96.40%** | **89.80%** |
| 13SP | **2.48** | **99.10%** | **83.80%** |
| 13FA | **2.48** | **93.40%** | **80.20%** |
| 14 SP | **2.37** | **99.05%** | **81.13%** |

* **Generally very high retention and completion rates. Completion rates do not accurately reflect certificates earned. It appears that there were problems getting certificates issued in a timely manner. Students often complained to our teaching staff that they had not received their certificates. Staffing changes have taken place very recently and more of our students are now receiving certificates.**
* **The positive rise in Successful Completion is partly due to a change in instructional strategies. Examples include cohort enrollment, embedded tutors, on-site counselor, online industry training modules, mandatory study hall, and the best teachers!**

**FTE/FTES**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| REEDLEY COLLEGE | 09FA | 10SP | 10FA | 11SP | 11FA | 12SP | 12FA | 13SP | 13FA | 14SP |
| Contract  (Fac. Workload) | **3.20** | **2.81** | **3.06** | **2.80** | **2.91** | **2.95** | **3.07** | **2.93** | **2.95** | **3.01** |
| Part Time  (Fac. Workload) | **1.49** | **1.31** | **0.60** |  | **0.60** |  | **0.75** |  |  | **0.60** |
| Extra Pay  (FT Fac. Workload) | **0.47** | **0.74** | **0.20** | **0.63** | **0.35** | **0.48** | **0.74** | **0.49** | **0.51** | **0.66** |
| FTEF | **5.16** | **4.86** | **3.86** | **3.43** | **3.86** | **3.43** | **4.56** | **3.42** | **3.46** | **4.27** |
| FTES | **62.35** | **54.52** | **57.83** | **53.23** | **56.39** | **51.06** | **68.36** | **53.46** | **55.23** | **54.57** |
| FTES per FTEF | **12.08** | **11.22** | **14.98** | **15.52** | **14.61** | **14.89** | **14.99** | **15.63** | **15.96** | **12.78** |
| WSCH per FTEF | **362.50** | **336.54** | **449.46** | **465.57** | **438.26** | **446.59** | **449.74** | **468.95** | **478.87** | **383.40** |
| FT:PT LHE Ratio | **2.15:1** | **2.15:1** | **5.10:1** | **13:0** | **4.85:1** | **12:0** | **4.09:1** | **13:0** | **12:0** | **5.02:1** |

* **The FTEF numbers are steadily increasing and indicate a need for additional full-time staff members. Current FTEF is 5.03 signifying the need for two additional full-time staff members. Moving forward, the anticipated schedule is likely to increase with the addition of a parallel on-highway truck component ag pathway, and general ag mechanics course offerings. Appendix D illustrates the steady demand for trained technicians.**

**OVERALL STUDENT PERFORMANCE – DEGREES AND CERTIFICATES**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 |
| ASSOCIATE OF SCIENCE | **1** | **-** | **2** | **3** | **1** |
| CERTIFICATE – 18- <30 UNITS | **1** | **31** | **30** | **20** | **41** |
| TOTALS | **2** | **31** | **32** | **23** | **42** |

Data Source: Chancellor's Website, <https://misweb.cccco.edu/mis/onlinestat/awards_prog.cfm>

**Certifications of Achievement**

**Certificates of Achievement have steadily increased but do not fully reflect the total number of students completing the program. A student completing the MAG program is eligible to receive 3 certificates, which would suggest that a much higher number of certificates should be awarded. However, the data does not reflect this. Our internal data is shown in Appendix C. This data from one cohort of students shows 74 certificates alone. This is approximately half of the total number of students in the program.**

**The number of Associate Degrees earned by students completing the program is noticeably low but may not be entirely accurate. Some students complete their general education at later dates, occasionally with neighboring community colleges. We do not have an accurate way to track these numbers.**

B. List the modes of delivery of instruction your program uses (F2F, DE, LGI, hybrid, virtual hybrid).

**Virtually all instruction taking place in the Mechanized Ag program is face to face with a combination of classroom instruction and hands-on lab activities. Online instruction is available to support instructor led training. Classes begin each semester with 40 students in the lecture (considered in industry training as very large groups) and 20 students per instructor in lab exercises. All courses are team taught.**

* 1. Use any conclusive comparison data provided/requested\* to analyze the success of the modes listed in B above. Compare these modes to total program and College data for:

\*Programs offering under 50% online courses may submit a comparative data request to the Institutional Researcher.

C. Analyze how the program’s historical funding patterns have impacted the program

**Funding for the program has been very positive. District funds have been sufficient to meet the instruction needs, Perkins funds have allowed for program enhancement, and C6 Grant funding have greatly enhanced the acquisition of equipment, training aids, and supplies. The Mechanized Ag program is a high-cost program that requires extensive supply budgets and maintenance of equipment and training aids. The district has recognized this fact and has done an admirable job of helping to meet the needs of the program.**

D. Analyze how the program’s historical funding patterns have impacted the program

**Ag Mechanic 275015**

**Budget Summary (to be completed by Dean)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2010-2011** | **2011-2012** | **2012-2013** | **2013-2014** | **2014-2015** | **Total Division Budget**  For the 5th year  **2014-2015** | **Percent of Division 2014-2015** |
| **Salaries** | 323100 | 331862 | 355789 | 370369 | 411979 | 3993345 | 10.32% |
| **Benefits** | 89492 | 102198 | 102950 | 101652 | 107874 | 1011778 | 10.66% |
| **Instructional Supplies** | 21489 | 10572 | 40227 | 19252 | 44645 | 247646 | 18.03% |
| XX0 | 17428 | 10572 | 6261 | 16903 | 11487 | 129064 | 8.9% |
| LT0 |  |  |  |  |  |  |  |
| Perkins | 4061 |  | 179 | 2349 |  | 42747 |  |
| Grant Funded |  |  | 33787 |  | 33158 | 75835 | 43.72% |
| **Non-Instructional Supplies** |  |  |  |  |  | 10021 |  |
| XX0 |  |  |  |  |  | 5034 |  |
| LT0 |  |  |  |  |  |  |  |
| Perkins |  |  |  |  |  |  |  |
| Grant Funded |  |  |  |  |  | 4987 |  |
| **Operating Expenses** | 5441 | 696 | 18384 | 17867 | 11009 | 304515 | 3.62% |
| XX0 | 248 | 366 | 2131 | 485 | 150 | 81058 | .19% |
| LT0 |  |  |  |  |  |  |  |
| Perkins | 5193 | 330 | 4819 | 53 | 1233 | 20694 | 5.69% |
| Grant Funded |  |  | 11434 | 17329 | 9626 | 202763 | 4.75% |
| **Equipment** | 21895 |  | 125086 | 416710 | 71428 | 407019 | 17.55% |
| XX0 |  |  |  | 944 |  | 2568 |  |
| LT0 |  |  |  |  |  |  |  |
| Perkins | 21895 |  | 20144 | 21140 | 18483 | 127279 | 14.52% |
| Grant Funded |  |  | 104942 | 394626 | 52945 | 277172 | 19.10% |
| Total | 461417 | 445328 | 642436 | 925850 | 646935 | 5974324 | 10.83% |

**III. Student Learning Outcomes**

A. Describe in what ways the program maintains an ongoing, collegial, self-reflective dialogue about the continuous improvement of student learning, including work with adjunct faculty. Provide examples.

**TEAMWORK! We’re all pulling in the same direction. Instructors share an office and office hours and are in constant communication throughout any given day. There are no bad ideas. Instructors have very similar program goals and educational philosophies. Instructors put all program materials on a shared drive where all have constant access. This is the most transparent administration in history. Student success is our goal!!**

B. An accreditation standard requires that the institution makes public expected learning outcomes. In what ways are the courses/program/degree/certificate outcomes made public?

**xCatalog** ☐Brochure **xWebsite**

☐Articulation/Transfer Agreements **xOther**:

**SLO’s are communicated to students primarily through course syllabi but are also available on the college website through the catalog link. SLO’s and objectives are shared with advisory committee members and in AED accreditation reports.**

C. Include the hyperlink(s) for the course and program/degree/certificate to GELO mapping grid as it is stored in your Blackboard SLO Assessment folder here.

<https://scccd.blackboard.com/webapps/blackboard/content/listContent.jsp?course_id=_23199_1&content_id=_1017025_1>

D. Give a brief overview of the course assessments completed during the last five years, highlighting any results and action plans that have been particularly helpful in improving student learning and your program. Provide all Course SLO Assessment Report Forms for your program in appendix A.

**After our initial SLO assessments and evaluations it became painfully clear that we needed to make serious changes to how we assessed our students. Our program is designed to be 50% lecture and 50% lab and in reality our grading criteria was more like 70% lecture and 30% lab. Our students were physically completing labs and performing well in hands-on applications but suffering with a disproportionate amount of paperwork and documentation. We were not providing a true and accurate assessment of their actual work performed. We’ve since redesigned the instructional program and grade assessment to better reflect student performance. All finals are now lab practical exams, and assignments are now weighted to balance the lecture and lab components.**

E. Give an overview of the program/degree/certificate assessments completed during the last five years, highlighting any results and action plans that have been particularly helpful in improving student learning and your program. Provide all Instructional Program/Degree/Certificate SLO Assessment Report Forms for your program in appendix B.

**We have set a goal of a 70% completion rate for mechanized ag certificates of achievement and have met and exceeded that goal almost every semester with large gains seen in overall numbers of certificates earned. We have since modified and added two additional smaller certificates of achievement to further increase student’s employability.**

F. Based on your assessments, have you identified additional resources needed to support the improvement of student learning or remedy any gaps you have found within your program (ie. staff development/training, equipment, technology, guest speaker, etc.)? Be sure to include these in your goals with appropriate page number references.

**When we first began assessing SLO’s we noticed that students were performing poorly on lab practical exams and it became clear that our students were unprepared for these exams in part because of the large amount of group work we do in lab settings. We have identified this as a concern and are actively working to reduce group size. The only way to accomplish this has been the acquisition of equipment and training components that allow students to work individually or in smaller groups. We have been able to purchase a number of training aids through grants and have made progress. Student success, skill level, and confidence have improved as a result. The reality of our program is that we must run classes with relatively large number of students which is not necessarily conducive to student success in a shop setting. Having the right ratio of training aids and equipment to students in the class is critical. Another important reality is that we have open enrollment for our program. Students sometimes enter this program unaware of the challenges and demands of the mechanized ag occupational field. We are looking for strategies to ensure that students entering the program are well prepared and fully committed to a highly technical and strenuous training program.**

|  |  |
| --- | --- |
| Assessment Type | Total number of courses using this assessment type |
| Item analysis of exams, etc. | 5 |
| Assignments based on rubrics | 6 |
| Assignments based on checklists | 6 |
| Direct observation of performances | 6 |
| Student self-assessments | 6 |
| CAT (clickers, mediated responses) | 0 |
| Capstone projects or final summative assessments | 5 |
| Other |  |

|  |  |
| --- | --- |
| Action Plan | Total number of courses using this action plan |
| Results are positive--no changes |  |
| Conduct further assessment | 6 |
| Use new or revised teaching methods |  |
| Develop new methods of evaluating student work | 5 |
| Plan purchase of new equipment or supplies | 5 |
| Make changes in staffing plan | 6 |
| Engage in professional development about best practices | 6 |
| Revise the course sequence or prerequisite |  |
| Revise the course syllabus or outline | 6 |
| Unable to determine |  |
| Other |  |

**IV. Qualitative Analysis**

Please note that these data should be integrated with the qualitative analysis, and SLO assessment to help support your Summary Statements and Goals. You must reference all campus sites, where appropriate.

A. Describe future trends or current best practices in teaching and learning unique to your area which are likely to influence your discipline. How will students be affected by these trends?

* Political (local ordinances, state or federal legislation, Title 5, Ed Code)
* Economic (Labor Market Data, District Fact Book, Advisory Committees)
* Sociological (migrant population, single parents, aging population trends)
* Technological (access, security, ethics)
* Educational (High School Graduation Rates, competition from other public and private postsecondary institutions, online education)

**A number of interesting factors influence the size and scope of the existing mechanized ag program. Industry demand for trained technicians is very high. Baby boomers are retiring creating immediate openings for young technicians. Air resource boards are mandating very clean emission standards for all diesel equipment which creates a demand for technicians trained to work on technologically advanced equipment. There is strong demand for trained, entry level technicians from the agriculture, construction and on-highway segments of industry. There is a large blue collar population of students eager for the affordable training offered by this program that will open doors for well-paid positions in industry. The mechanized ag program has remained impacted for a number of years partly due to the affordability of the program as compared to private schools, but also because of the positive reputation the program has built in the past twenty years. Instructors are in the planning stages of implementing an on-highway component which will require the acquisition of additional equipment specific to this industry segment. Equipment, training aids, additional shop space, additional instructors and industry specific training will all be required. Classroom and lab sizes of 40 students require a large number of training aids and equipment to be successful. (See Appendix D)**

**Instructors have actively explored what “best practices” have been implemented at similar programs through the US and Canada. Many have incorporated aptitude testing as a requirement for program enrollment, which is something we are considering.**

B. Describe and include rationale for any curriculum changes anticipated in the next 5 years. (If not applicable leave blank)

* Major course revisions
* Course deletions
* New courses
* Revised or new options within a program
* Proposed new programs
* Distance education/hybrid courses
* Enrollment trends
* Articulation changes
* Provide justification for programs consisting of 30 units or more in the major. (Reference quantitative data relative to degrees and certificates awarded)

**In response to significant interest from the on-highway and ag technician segments of the diesel equipment industry, we are actively exploring the addition of a parallel instructional pathway to meet their specific needs. Some new courses and small modifications of existing courses will be necessary to create successful pathways. Enrollment is likely to increase with these additional pathways because of the strong interest in both career areas.**

C. Discuss how your program meets the needs of the College’s diverse student:

C1. High-quality instruction of varying delivery modes and teaching methodologies. Provide examples.

**The Equipment Technician Program utilizes some unique and challenging methods of improving the quality of instruction for all students enrolled in the program. All students receive instruction in a combination of classroom and shop instruction. All courses are offered in a block schedule format and are team taught. All students are required to attend study hall led by paid peer tutors. All students are assigned on-line industry training modules in addition to their in-class instruction. All students take part in a summer internship program. All students have been taking an industry mechanical aptitude test at the beginning of the semester to help assess their skill level entering the program. Instructors are very good.**

C2. Discuss course offerings, (ie. times, location, delivery, etc.), identifying any needs that are not met. Provide examples.

**The Equipment Technician Program courses are as follows:**

**MAG 20 – Diesel Engines, Service Fundamentals and Machine Systems**

**MAG 21 – Transmissions and Torque Converters and Air Conditioning**

**MAG 30 – Electrical, Hydraulics and Welding**

**MAG 31 – Fuel Systems and Undercarriage**

**MAG 19V – Cooperative Work Experience**

**All courses above are degree applicable and non-transferrable. All courses are being taught every semester and are at overload status. Shop space is inadequate and many of these individual classes are being taught outside under the ag canopy, which is less than ideal. We are currently open enrollment, taking the first forty students that enroll. Advisory committee members have suggested that we begin aptitude testing to help determine which forty students are best suited for the program and have the best chances for success.**

**The General Ag Mechanics Program courses are as follows: (New program as of spring, 2015)**

**MAG 40 – Introduction to Agricultural Mechanics**

**MAG 41 – Introduction to Agriculture Welding (non-transferable)**

**MAG 42 – Small Gasoline and Diesel Engines**

**MAG 43 – Electrical and Hydraulic Fundamentals (non-transferable)**

**MAG 44 – Agriculture Welding & Fabrication**

**MAG 40 is currently being offered on campus and all program courses are currently being taught at Paramount Academy sites. There is potential to offer all courses at Reedley College but will require shop space, classroom space, and additional faculty.**

**Our advisory committee and industry partners are strongly recommending the addition of the following courses/programs:**

**On-Highway Truck and Bus Program: To successfully implement a parallel program to the existing curriculum, there would need to be additional shop and classroom space and the addition of at least one full-time instructor. The existing shop facilities are at maximum usage every day.**

C3. Appropriate breadth, rigor, sequencing, and completion time. Provide examples.

**Based on feedback from industry partners, the Equipment Technician Program contains the correct amount of breadth, rigor, sequencing, and completion time. Example: In one cohort class of 40 students, 33 students completed the program in one year (2015). 29 of these 33 are eligible for a Certificate of Achievement. 25 of these were gainfully employed during the summer of 2015. The remaining 8 students were provided with opportunities to obtain employment but chose not to.**

**The General Ag Mechanics Program is very new and there is not sufficient data to form conclusions.**

D. For students completing vocational and occupational certificates and degrees, describe how students will meet employment and other applicable standards and are prepared for external licensure and certifications.

**Students completing the Equipment Technician have earned a number of third party certifications including OSHA 10, MACS Section 609, OSHA Lift Truck, and AED Certification. Students also receive certificates for completion of Caterpillar on-line training modules.**

E. Describe what your program has done to create links with support services or other instructional programs, if any.

**The program has benefitted from participating in BTC activities (Beyond the Classroom), using C6 funds, where peer tutors are paid to work with other students. In addition, the program has had an embedded counselor through the use of C6 funds which has proven especially helpful. Embedded counseling and peer tutoring have proven very effective and funds are being sought to extend the programs.**

F. Describe any community or other institution partnerships or collaboration of which your program has had a part.

**The Equipment Technician Program partners with both Caterpillar Inc. and Quinn Company to train technicians and is recognized as a Caterpillar Excellence Program. The Program is the first in the state to receive accreditation through the AED (Associated Equipment Distributers). Instructors serve on committees to review AED standards and have a seat on the AED Advisory Committee. Instructors plan and coordinate Career Development Events for high school students from throughout California. The program has been approached by NATEF (National Automotive Technicians Education Foundation) and Betts Spring Company to develop a program to meet the needs of the on-highway segment of the diesel industry. The program is involved with community events and participates in the Annual Farm Equipment Light Parade.**

G. If you are a CTE-eligible program and wish to be designated as a Signature Program, justify your reasons with responses to the following, as applicable:

**Qualitative Measures** (External demand, workforce needs, and economic development)

* Describe the community need and job availability for program graduates.
* How does the program respond to changing needs of industry?
* Describe community support for the program (e.g., advisor groups, partners, and employers).
* Address if the program duplicates similar training programs in the area with the same Standard Operating Codes (SOC).
* Describe job placement and internships for this program.
* What are the required external accreditation, licensure, and/or oversight (if any)? If yes, please describe.
* How does the program align with nationally recognized industry standards, curriculum, and/or skill development?
* Describe the program’s physical resources including facilities and equipment.
* **There is tremendous demand from all segments of the diesel maintenance and repair industries for qualified entry level technicians. Due to the highly technical nature of diesel powered equipment and the aging workforce, demand projections are very strong.**
* **Instructors strive to maintain contact with industry representatives to remain current with equipment trends and demands and to better prepare students for employment. Flex days are used to make visits to employers to build relationships and promote the program so that student internships and potential jobsites can be obtained. As industry evolves and changes, as instructors we update and revise our curriculum to reflect these changes. Training aids and equipment purchases are planned to reflect changes in industry. Curriculum is revised to reflect technological advances, especially as they relate to North American diesel emission standards of America.**
* **Curriculum continues to be revised and equipment acquired to better prepare students for careers in the agriculture equipment repair business. This has been a gradual and ongoing process for the past several years.**
* **Industry partners from the on-high truck repair segment of the diesel powered equipment have specific needs for entry level technicians and have approached the program to develop a parallel course of study. Ideas are currently being explored.**
* **The program maintains an active advisory committee and meets regularly to discuss program and industry needs. Since its inception twenty years ago, the program has enjoyed strong partnerships with Caterpillar Inc. and Quinn Company. Close to 200 students have been hired by Quinn Company and many times that number is working in industry. We maintain a substantial list of suitable employers where students can serve internships or seek full-time employment.**
* **The Equipment Technician Program is the only program of its type in the surrounding area and is widely recognized as being one of the strongest programs in the state. We are the first of only two programs accredited by the AED foundation. We attract students not only from the immediate feeder area but from throughout the valley, the central coast, and southern California.**
* **All students completing the Equipment Technician must complete MAG 19v Summer Internship. Instructors spend considerable time helping students find and prepare for internships and jobs. It is common for employers to reach out to our program looking for qualified technicians. A career fair was held in the spring of 2015 where 24 employers set up tables and interviewed students from the Equipment Technician Program, leading to internships and full-time positions.**
* **No accreditations are required; however, instructors chose to pursue accreditation through the AED Foundation and were successful in their efforts. Currently we are exploring the possibility of seeking NATEF Accreditation for an on-highway instructional program. This would also require instructors to become NATEF certified.**
* **Being AED accredited requires the program to teach to specific industry standards established by a committee of industry and education professionals from all over North America. The Equipment Technician Program utilizes instructional curriculum developed by Caterpillar as well as Caterpillar on-line training modules. These are the same training modules used by Caterpillar technicians.**
* **Facilities include a 7,200 sq. ft. shop consisting of two shop floor spaces, classroom space, offices, storage, and restrooms. A 4,320 sq. ft. concrete apron partially covered and equipped with a two-ton bridge crane allows for outside instruction. A large adjoining equipment yard provides adequate space for tractor and equipment storage and building expansion. There is a covered shade structure that runs the length of one side of the equipment yard where a number of trucks and tractors are parked. There are eight sea-train storage units that provide storage for engines, transmissions, and other instructional equipment. Classroom instruction currently takes place in the LSH classroom. There is a smaller classroom in the ag shop building where small group instruction takes placed. This classroom is used for student tutoring and has ten computer stations available to them. A field adjacent to the shop allows for equipment operation and instruction. MAG 30 welding instruction takes place in the IT shop one day per week. Instructional equipment includes classroom sets of diesel engines for the engine rebuild class, sets of transmissions for transmission classes, hydraulic and electrical trainers, air conditioning trainers and diagnostic tools, classroom sets of roll-away tool boxes, considerable numbers of general and specialty shop tools, and considerable supplies. There are a large number of runner engines, ag tractors, and various pieces of construction equipment that are used for hands-on training.**

**Quantitative Measures**

* What are the program’s WSCH/FTEF and FTES/FTEF data for last three years?

**The WSCH/FTEF average is close to 450 over the past three years, a very efficient number for a CTE program.**

**The FTES/FTEF average is 15.**

* What is the full-time faculty to part-time faculty ratio?

**Good question. In the past there have been semesters when we did not need part-time faculty but have been employing adjunct faculty for the past two years since all courses are being taught each semester. This explains why the numbers vary drastically from 13:0 to 5:1.**

* What are the enrollment trends for the last three years?

**Enrollment has remained very steady over the past three years. The program has typically had 85-90 students on average.**

* Indicate the number of degrees and certificates awarded in the last three years.
  + **Certificates of Completion**

**We do not have data for Certificates of Completion because they are no longer being counted by the Chancellors office.**

* + **Certifications of Achievement**

**Certificates of Achievement have steadily increased but do not fully reflect the total number of students completing the program. A student completing the MAG program is eligible to receive 3 certificates, which would suggest that a much higher number of certificates should be awarded. However, the data does not reflect this. Our internal data is shown in Appendix C. This data from one cohort of students shows 74 certificates alone. This is approximately half of the total number of students in the program.**

* + **Local (low unit) Certificates**

**We no longer have low unit Certificates since they do not count for anything at the Chancellors office. Larry said so and is correct.**

* What are the program’s retention rates for the last three years?

**Retention rates are typically high with most years having 90% plus percentage rates.**

* What is the demand for the program (Standard Operating Code) – State and Regional?
  + Please include industry size and growth, current and forecasted job growth by position, count, and percentage, and wage data (identify low, median, and high wage levels).

**Heavy Vehicle and Mobile Equipment Service Technicians – SOC code 49-3040**

**Farm Equipment Mechanics and Service Technicians – SOC code 49-3041**

**Mobile Heavy Equipment Mechanics, except Engines – SOC code 49-3042**

**Bus and Truck Mechanics and Diesel Engine Specialists – SOC code 49-3031**

**2012 US data for the above codes:**

**Total employment in 2012: 582,200**

**Growth projections for all occupations: Approximately 10%**

**Projected employment by 2022: 635,800**

**Lowest 10% of workers earned less than $27,000, Median pay averages $20.35 to 21.07, and highest 10% earned more than $63,000**

**2012 California data for the above codes (except 49-340):**

**Total employment in 2012: 35,300**

**Growth projections for all occupations: 12.8%**

**Projected employment by 2022: 39,700**

**Lowest 25% of workers earned less than $18.91, Median pay averages $23.70 , and highest 75% earned more than $29.45**

**2012 Fresno County data for the above codes (except 49-340):**

**Total employment in 2012: 1,550**

**Growth projections for all occupations: 14.2%**

**Projected employment by 2022: 1,720**

**Lowest 25% of workers earned less than $17.80, Median pay averages $23.44, and highest 75% earned more than $28.14**

**Students are not limited to Fresno County but find employment statewide and nationally. See Appendix D**

**V. Summary Statement**

A. Describe the major conclusions reached based on this report’s quantitative and qualitative analyses and evaluation of the assessment of student learning outcomes.

**The Equipment Technician Program is in a growth mode. Classes are at their maximum enrollment and job placement opportunities are excellent and growing. Demand for quality, entry level technicians is excellent for all industry sectors with considerable interest and demand for a parallel instructional path in on-highway diesel applications. Instructors are teaching at their maximum overload and have several adjunct instructors helping to fill gaps. Shops are at maximum capacity with two, forty student classes using the shop throughout each day. Industry partners have expressed interest and need of night class offerings for working technicians. In addition to the Equipment Technician Program classes, the Paramount Academy Program classes have begun with most of the courses being taught at local high schools. In the future, there are plans to offer these same classes on the Reedley College campus.**

**The current facilities are now 40 years old and when the program was first started, it was of adequate size. There was one full-time instructor and class of 16 students. The program has now grown to 3 full-time instructors, an instructional technician, several adjunct faculty and 120 students. The facilities are at more than maximum capacity and instructors and staff are creative in utilizing space by rotating equipment and training aids in and out of storage containers. We are operating in under-sized facilities for the number of students in the program. And, the facilities could use some freshening-up in the way of painting, roofing, evaporative cooling, heating, office and restrooms.**

**The challenges in program growth lie in several areas. The first is available shop instructional space. The instructional program is currently maxed out and in order to grow and add additional courses and programs, additional shops and classrooms will need to be constructed. The Ag Tractor Pathway and Truck/Bus programs have considerable demand and strategies to implement these additional programs are being explored. There is also demand for night classes which are currently not being offered. At least one or more full-time faculty members will need to be added to the teaching team. Additional training aids and equipment will need to be purchased or acquired as well.**

**There are no current entrance requirements for the program. We accept the first 40 students who sign up, regardless of aptitude and desire. A system must be developed where students with the best possible chances of success are admitted into the program. We are currently gathering data and for the past two years have been administering aptitude tests to all students. This aptitude test, developed by industry, includes Mechanical Reasoning, Industrial Reading, and Numerical Ability. Preliminary data suggests that students scoring well below average have not been successful.**

**We will continue to emphasize students earning certificates, both Certificates of Achievement and third party certificates. We are also focused on increasing the number of associate degrees. We currently have very strong industry partners and will continue to cultivate and strengthen these relationships.**

B. Based on the conclusions above, complete the table below. Use these goals to inform annual budget worksheet. Add rows as needed.

0=Required for the function of the program

1=Would help program function

2=Would enhance program

3=desired, but not required for function of the program

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Curriculum/Pedagogical Goals | Page number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal  Link |
| 1. Create an Ag Technician pathway. 2. Implement strategies to increase the number of AS degrees in program. 3. Develop an on-highway truck & bus training program | 6, 20, 24  9, 13-15, 19, 22, 25  6, 20, 24 | 2  2  2 |  | By 2020  2017  2020 | 1.2, 3.2, 4.1, 4.2  1.1, 1.3, 1.4, 2.1, 2.2, 2.3, 3.1, 3.2,4.1,  1.2, 3.2, 4.1, 4.2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Facility Goals | Page number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal  Link |
| 1. Extend ag canopy to cover the entire west side of shop. 2. Build machinery covers in equipment yard to protect mobile equipment. Solar structures would be cost effective. 3. Grade equipment yard so that rain water flows away from shop building. 4. Re-surface equipment yard with gravel or decomposed granite to reduce the constant dirt and dust that blows directly into the shop and lab. 5. Develop and improve equipment storage facilities. 6. Build classroom facility by shop. 7. Build additional shop facility that has a clean room for hydraulics and fuel systems and electrical training, and provides adequate space for hands-on instruction. 8. Modernize shop facilities by painting, updating restrooms to accommodate large numbers of students, and installing adequately sized coolers to shop buildings. 9. Construct and equip a designated ag mechanics/fabrication shop to facilitate the ag mechanics certificate pathway. (Paramount program) 10. Construct an additional shop facility to accommodate a parallel on-highway diesel program. | 10, 21  10, 21  5  5  21  21  10, 21  6  21  22 | 1  1  1  1    1  1  1  1  0  2 | $500,000  Free if district will work with solar companies.  $25,000  $15,000  $50,000  Unknown (Bond?)  Unknown (Bond?)  Unknown (Bond?)  Unknown (Bond?)  Unknown (Bond?) | 2020  2017  2016  2016  2016-2017  2020  2020  2017  2020  2020 | 1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2  1.2, 2.4, 4.2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Assessment Goals | Page number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal  Link |
| 1. Implement entrance/proficiency exam (aptitude test) 2. Fund year end AED Assessment Exam, AC Certification exam. | 19, 21  22 | 1  1 | Minimal  $6,500/year | 2017  2016 | 1.1, 1.2, 1.4, 2.2, 4.2  1.1, 1.2, 4.2 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Supply Goals | Page number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal  Link |
| 1. Ensure that supply budgets are adequate to sustain a quality educational program. Supply budgets must provide for increased student enrollment, mimic industry standards and provide maintenance of existing training equipment. | 7, 15, 20 | 0 | $20,000 + cola/year | 2016 | 1.2, 2.3, 3.3, 4.1, 4.2, |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Technology Goals | Page Number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal Link |
| 1. Increase access and availability of technology for the large number of students in the program. This includes both the classroom and shop facilities. 2. Add additional electronic and computer controlled equipment and teaching aids. | 7, 20  6 | 1  1 | $20,000  $60,000 | 2018  2017 | 1.2, 2.3, 3.3, 4.1, 4.2,  1.2, 2.3, 3.3, 4.1, 4.2, |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Staffing Goals  (grow or maintain staffing—this section may be copied and pasted into the Faculty Prioritization Request) | Page Number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal Link |
| 1. Add a 4th and a 5th full-time faculty member to provide quality instruction in the projected on-highway and Paramount programs. 2. Secure a CTE counselor who could dedicate one to two days per week to work directly with ag mechanics students. Specifically, this counselor would meet with students in the mechanized ag shop or classroom. 3. Allocate funds for embedded tutoring. | 14, 20, 25  9, 13, 14, 22 | 1  1  0 | $120,000  $25,000/year  $5,000/year | 2017  2016  2016 | 1.2, 4.1, 4.2, 5.3  1.1, 1.2, 1.3, 1.4, 2.2, 5.2,5.3  1.3, 1.4, 2.2, 2.3 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Distance Education Goals  (curricular or student services) | Page Number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal Link |
| 1. Provide funds to purchase online training modules for student use. | 7, 22 | 1 | $16,000/year | 2016 | 1.2, 2.3, 3.3, 4.1, 4.2, |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Scheduling Goals  (FTES/SQ.FT. data needed for reports) | Page Number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal Link |
|  |  |  |  |  |  |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Additional Goals | Page Number(s) where supported | Priority (0-3) | Estimated cost/resources needed | Proposed timeline | SP Goal Link |
| 1. Increase and enhance industry partnerships through attendance at industry conferences, continuing educational opportunities, and industry accreditation efforts. 2. Replace 3406B trainer engines with more current models. 3. Purchase additional hydraulic trainers to allow for smaller group sizes and more actual hands-on experience for students. 4. Replace existing shop air compressor. 5. Continue updating and acquiring diagnostic trainers and equipment to reflect industry standards. 6. Purchase/acquire specific training aids and equipment common to on-highway truck applications that will help to meet NATEF Accreditation. 7. Continue purchase/acquisition of ag and construction equipment to reflect industry trends. 8. Purchase additional ag tractors for use in instructional program. 9. Purchase tooling and equipment modeling industry trends | 24  6,20  6  6  6, 23  6, 18-21, 24  6, 23  6  6 | 1  1  1  0  1  2  1  2  1 | $10,000/year  $120,000  $60,000  $10,000  $20,000/year  Unknown  Unknown  $150,000  $50,000 | 2016  2016  2017  2016  2016  By 2020  By 2020  By 2020  By 2020 | 1.2, 4.1, 4.2, 4.3  1.2, 4.2,  1.2, 4.2,  1.2, 4.2,  1.2, 4.2,  1.2, 4.2,  1.2, 4.2,  1.2, 4.2,    1.2, 4.2, |

\*As supported primarily by the report’s quantitative and qualitative analyses and evaluation of the assessment of student learning outcomes

**Note: Summary Statements are needed for each campus, if applicable.**

### Student Learning Outcome Assessment Timeline

Complete the following chart indicating which year course, program, degree, and certificate outcomes will be completed. Each course must be assessed at least once during this timeframe. The program may conduct as many assessments of a single course, program, degree, or certificate as is meaningful.

|  |  |  |
| --- | --- | --- |
| Year | Courses, Program, Degree, and/or Certificate to be assessed | Person responsible for heading assessment and completing Reporting Form |
| Year 1  2015-2016 | **Mag 20 & 21, MAG 40** | **MAG Staff** |
| Year 2  2016-2017 | **MAG 30 & 31, MAG 41, MAG 42** | **MAG Staff** |
| Year 3  2017-2018 | **Mag 19V, MAG 43, MAG 44** | **MAG Staff** |
| Year 4  2018-2019 | Equipment Tech Level I and II CA, Equipment Technician AS, Equipment Technician CA, Mech AG CA, Mech AG AS | **MAG Staff** |
| Year 5  2019-2020 | Report Writing Year | **MAG Staff** |

### Curriculum Revision Timeline

This Curriculum Revision Timeline will be tracked by the Curriculum Chair. Add/delete rows as needed.

|  |  |  |
| --- | --- | --- |
| **Course** | **Semester revision to be submitted** | **Person responsible for revision** |
| **Mag 20, 21, 30, 31** | **Spring 2016** | **MAG Staff** |
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**Appendix A**

[**https://scccd.blackboard.com/webapps/blackboard/content/listContentEditable.jsp?content\_id=\_1017023\_1&course\_id=\_23199\_1**](https://scccd.blackboard.com/webapps/blackboard/content/listContentEditable.jsp?content_id=_1017023_1&course_id=_23199_1)

**Appendix B**

[**https://scccd.blackboard.com/webapps/blackboard/content/listContentEditable.jsp?content\_id=\_1017023\_1&course\_id=\_23199\_1**](https://scccd.blackboard.com/webapps/blackboard/content/listContentEditable.jsp?content_id=_1017023_1&course_id=_23199_1)

**Appendix C**

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| CO = Certificate of Completion, CA = Certificate of Achievement | | | | Equipment Tech Level I CA | Equipment Tech Level II CA | MAG (Equipment Tech) Program CA |  |
| MAG FA13 | First Name | Last Name | Student ID |  |
| 1 | Jared | Abatti | 650624 |  |  |  |  |
| 2 | Jose | Alvarado | 664570 | X | X | X |  |
| 3 | Gerardo | Bibian | 273124 | X | X | X |  |
| 4 | Heriberto | Bravo | 634381 | X | X | X |  |
| 5 | Alvaro | Camberos | 487896 | X | X | X |  |
| 6 | Brion | Campbell | 416452 | X | X | X |  |
| 7 | Fernando | Candelario | 671426 | X | X |  |  |
| 8 | Daniel | Carrillo | 672958 | X | X | X |  |
| 9 | Jesus | Cervantes | 663034 | X | X | X |  |
| 10 | Miguel | Cortez | 674300 | X | X | X |  |
| 11 | Camilo | Crispin | 685309 | X | X | X |  |
| 12 | Gabriel | Escalera | 678448 | X | X | X |  |
| 13 | Silverio | Esparza | 681768 | X | X | X |  |
| 14 | Daniel | Fonceca | 665132 | X | X | X |  |
| 15 | Gerardo | Hernandez | 669094 |  |  |  |  |
| 16 | Mario | Luna | 674251 | X | X |  |  |
| 17 | Alan | Mancini | 666159 | X | X |  |  |
| 18 | Angel | Manzo | 678550 | X | X |  |  |
| 19 | Allen-Noel | Medina | 605909 | X |  |  |  |
| 20 | Benjamin | Meyer | 689439 | X | X | X |  |
| 21 | Jose | Montano Monzon | 685232 |  |  |  |  |
| 22 | Ricardo | Naranjo | 591276 | X | X | X |  |
| 23 | Cesar | Oceguera | 672764 | X | X |  |  |
| 24 | Javier | Perez | 674460 |  |  |  |  |
| 25 | Juan | Ponce | 669103 | X |  |  |  |
| 26 | Steven | Rubalcava | 402855 | X | X |  |  |
| 27 | Robert | Ruiz | 192288 | X | X | X |  |
| 28 | Aaron | Schweikert | 199732 | X | X | X |  |
| 29 | Brian | Vander Eyk | 680040 | X | X | X |  |
| 30 | Rodolfo | Vasquez | 638403 | X | X | X |  |
| 31 | Jorge | Venegas | 665206 | X | X | X |  |
| 32 | Dayton | Waggoner | 676148 | X | X | X |  |
| 33 | Tyler | Williamson | 685048 |  |  |  |  |
|  |  |  | Totals | 28 | 26 | 20 | 74 |

**Appendix D**

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| **Bus and Truck Mechanics** |
| **(SOC Code : 49-3031)** |
| **in California** |

Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Include mechanics working primarily with automobile diesel engines.

Employers are usually looking for candidates with Post secondary vocational training .

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| **Occupational Wages** | [[Top]](javascript:window.scrollTo(0,0);) |

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| **Area** | **Year** | **Period** | **Hourly Mean** | **Hourly by Percentile** | | |
| **25th** | **Median** | **75th** |
| California | 2015 | 1st Qtr | $24.65 | $19.00 | $24.57 | $29.82 |

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| [View Wages for All Areas](http://www.labormarketinfo.edd.ca.gov/aspdotnet/SupportPage/AllOESWage.aspx?soccode=493031)  [About Wages](http://www.labormarketinfo.edd.ca.gov/data/wages.html) |  |
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| **Occupational Projections of Employment (also called "Outlook" or "Demand")** | [[Top]](javascript:window.scrollTo(0,0);) |

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| **Area** | **Estimated Year-Projected Year** | **Employment** | | **Employment Change** | | **Annual Avg Openings** |
| **Estimated** | **Projected** | **Number** | **Percent** |
| California | 2012 - 2022 | 21,700 | 24,600 | 2,900 | 13.4 | 760 |
| **Farm Equipment Mechanics** | | | | | | |
| **(SOC Code : 49-3041)** | | | | | | |
| **in California** | | | | | | |

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems. Exclude "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Employers are usually looking for candidates with Post secondary vocational training .

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| **Area** | **Year** | **Period** | **Hourly Mean** | **Hourly by Percentile** | | |
| **25th** | **Median** | **75th** |
| California | 2015 | 1st Qtr | $20.49 | $15.55 | $19.62 | $25.95 |

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| [View Wages for All Areas](http://www.labormarketinfo.edd.ca.gov/aspdotnet/SupportPage/AllOESWage.aspx?soccode=493041)  [About Wages](http://www.labormarketinfo.edd.ca.gov/data/wages.html) |  |
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| **Occupational Projections of Employment (also called "Outlook" or "Demand")** | [[Top]](javascript:window.scrollTo(0,0);) |

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| **Area** | **Estimated Year-Projected Year** | **Employment** | | **Employment Change** | | **Annual Avg Openings** |
| **Estimated** | **Projected** | **Number** | **Percent** |
| California | 2012 - 2022 | 2,700 | 3,100 | 400 | 14.8 | 120 |
| **Mobile Heavy Equipment Mechanics, Except Engines** | | | | | | |
| **(SOC Code : 49-3042)** | | | | | | |
| **in California** | | | | | | |

Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Exclude "Rail Car Repairers" (49-3043) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Employers are usually looking for candidates with Post secondary vocational training .

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| **Area** | **Year** | **Period** | **Hourly Mean** | **Hourly by Percentile** | | |
| **25th** | **Median** | **75th** |
| California | 2015 | 1st Qtr | $27.51 | $22.18 | $26.90 | $32.59 |

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| [View Wages for All Areas](http://www.labormarketinfo.edd.ca.gov/aspdotnet/SupportPage/AllOESWage.aspx?soccode=493042)  [About Wages](http://www.labormarketinfo.edd.ca.gov/data/wages.html) |  |
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| **Area** | **Estimated Year-Projected Year** | **Employment** | | **Employment Change** | | **Annual Avg Openings** |
| **Estimated** | **Projected** | **Number** | **Percent** |
| California | 2012 - 2022 | 10,900 | 12,000 | 1,100 | 10.1 | 430 |

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| **Bus and Truck Mechanics** |
| **(SOC Code : 49-3031)** |
| **in Fresno County** |

Diagnose, adjust, repair, or overhaul trucks, buses, and all types of diesel engines. Include mechanics working primarily with automobile diesel engines.

Employers are usually looking for candidates with Post secondary vocational training .  
  
Fresno County is the same as Fresno MSA.

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| **Area** | **Year** | **Period** | **Hourly Mean** | **Hourly by Percentile** | | |
| **25th** | **Median** | **75th** |
| Fresno MSA | 2015 | 1st Qtr | $23.05 | $17.62 | $23.31 | $28.43 |

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| [View Wages for All Areas](http://www.labormarketinfo.edd.ca.gov/aspdotnet/SupportPage/AllOESWage.aspx?soccode=493031)  [About Wages](http://www.labormarketinfo.edd.ca.gov/data/wages.html) |  |
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| **Occupational Projections of Employment (also called "Outlook" or "Demand")** | [[Top]](javascript:window.scrollTo(0,0);) |

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| **Area** | **Estimated Year-Projected Year** | **Employment** | | **Employment Change** | | **Annual Avg Openings** |
| **Estimated** | **Projected** | **Number** | **Percent** |
| Fresno County | 2012 - 2022 | 780 | 790 | 10 | 1.3 | 18 |
| **Farm Equipment Mechanics** | | | | | | |
| **(SOC Code : 49-3041)** | | | | | | |
| **in Fresno County** | | | | | | |

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems. Exclude "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Employers are usually looking for candidates with Post secondary vocational training .  
  
Fresno County is the same as Fresno MSA.

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| **Area** | **Year** | **Period** | **Hourly Mean** | **Hourly by Percentile** | | |
| **25th** | **Median** | **75th** |
| Fresno MSA | 2015 | 1st Qtr | $20.36 | $12.95 | $20.92 | $26.84 |

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| [View Wages for All Areas](http://www.labormarketinfo.edd.ca.gov/aspdotnet/SupportPage/AllOESWage.aspx?soccode=493041)  [About Wages](http://www.labormarketinfo.edd.ca.gov/data/wages.html) |  |
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| **Area** | **Estimated Year-Projected Year** | **Employment** | | **Employment Change** | | **Annual Avg Openings** |
| **Estimated** | **Projected** | **Number** | **Percent** |
| Fresno County | 2012 - 2022 | 300 | 360 | 60 | 20.0 | 15 |
| **Mobile Heavy Equipment Mechanics, Except Engines** | | | | | | |
| **(SOC Code : 49-3042)** | | | | | | |
| **in Fresno County** | | | | | | |

Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining. Exclude "Rail Car Repairers" (49-3043) and "Bus and Truck Mechanics and Diesel Engine Specialists" (49-3031).

Employers are usually looking for candidates with Post secondary vocational training .  
  
Fresno County is the same as Fresno MSA.

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| **Area** | **Year** | **Period** | **Hourly Mean** | **Hourly by Percentile** | | |
| **25th** | **Median** | **75th** |
| Fresno MSA | 2015 | 1st Qtr | $25.69 | $22.79 | $26.08 | $29.13 |

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| [View Wages for All Areas](http://www.labormarketinfo.edd.ca.gov/aspdotnet/SupportPage/AllOESWage.aspx?soccode=493042)  [About Wages](http://www.labormarketinfo.edd.ca.gov/data/wages.html) |  |
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| **Occupational Projections of Employment (also called "Outlook" or "Demand")** | [[Top]](javascript:window.scrollTo(0,0);) |

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| **Area** | **Estimated Year-Projected Year** | **Employment** | | **Employment Change** | | **Annual Avg Openings** |
| **Estimated** | **Projected** | **Number** | **Percent** |
| Fresno County | 2012 - 2022 | 470 | 570 | 100 | 21.3 | 24 |