REEDLEY COLLEGE
AGRICULTURAL MECHANICS
ASSOCIATE IN SCIENCE DEGREE

Item 1. Program Goals and Objectives

The goal of this associate in science (A.S.) program is to provide occupational skills and training for students seeking a career in the Career Technical Education (CTE) field of agricultural mechanics. Upon completion of this program, students will be able to:

- Perform basic maintenance and repairs to agricultural electrical, mechanical, and hydraulic machines/equipment.
- Demonstrate the ability to fabricate tools and small equipment.
- Successfully obtain employment in the agricultural mechanics field.
- Demonstrate the ability to safely and properly operate agricultural equipment.
- Demonstrate the ability to construct agricultural projects using wood, metal and various types of plumbing materials such as metal, PVC, PE and concrete pipe.
- Perform engine repairs to small a gas and diesel engines.

Student Selection and Fees:

The Reedley College Agricultural Mechanics Program is an open enrollment program with no entry criteria. There are no student lab fees for any of the program courses.

Item 2. Catalog Description

The Associate in Science degree for Agricultural Mechanics provides practical hands-on instruction in the areas of basic agricultural mechanics, welding/fabrication, small engine repair and maintenance, and electrical and hydraulics. This program includes lecture based classes and practical hands-on laboratory activities. This degree will benefit students who want to become agricultural mechanics instructors, further their knowledge by transferring to a four-year college or university, or who want to work in the agricultural mechanics field.

Item 3. Program Requirements

AGRICULTURAL MECHANICS
ASSOCIATE IN SCIENCE DEGREE

Requirements	Dept. Name/ #	Name	Units	Sequence
Required Core (18 units)	MAG 40	Introduction to Agricultural Mechanics	3	Yr 1/2, Fall
	MAG 41	Introduction to Agricultural Welding	3	Yr 1/2, Spring

	MAG 42	Small Gasoline and Diesel Engines	3	Yr 1/2, Fall
	MAG 43	Electrical and Hydraulic Fundamentals	3	Yr1/ 2, Spring
	MAG 44	Agriculture Welding Fabrication	3	Yr 1/2, Fall
	PLS 11	Machinery Technology	3	Yr 1/2, Spring

Required Major Total	18 units
Completion of CSU-GE Breadth or IGETC pattern	37-39 units
(Possible double counting: 12 units)	
Transferable electives (as needed to reach 60 units)	
TOTAL UNITS	60 units

Proposed Sequence:
Year 1, Fall = 15 units
Year 1, Spring = 12 units
Year 1, Summer = 3 units
Year 2, Fall = 14 units
Year 2, Spring = 16 units
TOTAL UNITS: 60 units

Item 4. Master Planning

This Agricultural Mechanics Associates in Science Degree is in line with the Master Plan at Reedley College. Also, it matches the State Center Community College Districts Master Plan Goal 4 of Economic and Workforce Development by offering access to quality to career technical programs.

Currently the Mechanized Agriculture (MAG) Program consists of a strong Equipment Technician CTE pathway. There has been a need to expand the MAG Program to include the Agricultural Mechanics Pathway to meet the needs of the surrounding community. Also, the Creation of the Paramount Academy the now Wonderful Academy brought about the necessity to offer this program. Currently through the Wonderful program there are approximately 120 students pursuing this pathway.

The present program review document submitted Fall 2015 reflects the added needs for funds to offer the proposed course of study along with possible facility needs. In addition to the program review process, the MAG program meets twice annually with an industry-based advisory committee to discuss the enhancement of the instructional program and

industry/workplace needs. Often discussions focus on community needs and the skills students need to attain to obtain gainful employment.

The Agricultural Mechanics program utilized the Knowledge and expertise of industry partners and advisory members. Members are critical in expressing industry needs and trends and helping to steer the direction the program should take. Minutes documenting the proposed AS and Certificate in Agricultural Mechanics are attached.

> **New Agricultural Mechanics Path**
> Larry D – There has been many requests for an agricultural mechanics path for students. Paramount wants to start a dual-enrolment program with Sanger High with pathways in agricultural mechanics, plant science, and ag business.
> Mike F- thinks it's a good idea one more rout for student to take.
> Bill B – Fully supports anyway to try and get a better skilled workforce. It is important to have a skilled labor available.

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. 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. Welding and fabrication instruction takes place in the IT shop. MAG 40 Intro to Ag Mechanics currently takes place in the small OH shop behind LSH 1.

Item 5. Enrollment and Completer Projections

		Fall 2014-Spring 2015		Fall 2015-Spring 2016	
CB01: Course Department Number	CB02: Course Title	Annual # Sections	Annual Enrollment Total	Annual # Sections	Annual Enrollment Total
MAG 40	Introduction to Agricultural Mechanics (formerly Construction Technology)	2	32	2	39

MAG 41	Introduction to Agricultural Welding			2	35
MAG 42	Small Gasoline and Diesel Engines				
MAG 43	Electrical and Hydraulic Fundamentals				
MAG 44	Agriculture Welding Fabrication				
PLS 11	Machinery Technology	1	32	1	22

*Use as many rows as required to provide requested data.

The Agricultural Mechanics AS degree is in its infancy and as of the Spring 2016 there have only been 2 courses offered MAG 40 and MAG 41. Current students will be moving through the remaining courses are they matriculate through the program.

(B) Survey
In the case of a survey, the survey questionnaire, a description of the population surveyed, and survey results must be included.

N/A – No survey has been conducted.

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.

Occupational Wages [Top]

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

Occupational Projections of Employment (also called "Outlook" or "Demand") [Top]

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

http://www.labormarketinfo.edd.ca.gov/cgi/databrowsing/occExplorerQSDetails.asp?searchCriteria=&careerID=&menuChoice=occExplorer&geogArea=0601000000&soccode=493041&search=Explore+Occupation

Item 6. Place of Program in Curriculum/Similar Programs

Before completing this section, review the college's existing program inventory in the CCC Curriculum Inventory, then address the following questions:

a) Do any active inventory records need to be made inactive or changed in connection with the approval of the proposed program? If yes, please specify.

N/A- this is a new program that will not replace any existing program.

b) Does the program replace any existing program(s) on the college's inventory? Provide relevant details if this program is related to the termination or scaling down of another program(s).

N/A- this is a new program that will not replace any existing program.

c) What related programs are offered by the college?

There are no other related programs at Reedley College or in the State Center Community College service area.

Item 7. Similar Programs at Other Colleges in Service Area

N/A – There are no other colleges within the defined Reedley College service area that offer a similar instructional CTE program.

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Projections of Employment by Occupation, 2012 - 2022

Occupations Matched to Top Code(s):

011600 *Agricultural Power Equipment Technology*

Geography: Fresno County

Counties: Fresno County

Annual Job Openings by Occupation

SOC Code	Occupation Title (Link to Occupation Profile)	2012 Employment	Annual Job Openings[1]
493041	Farm Equipment Mechanics	300	15
493042	Mobile Heavy Equipment Mechanics, Except Engines	470	24
	Total	770	39

Table Generated on 5/4/2015 12:41:35 PM

[1]Total Job Openings are the sum of new jobs from growth plus net replacements. Annual job openings are total job openings divided by the number of years in the projection period.

[2]This occupation has been suppressed due to confidentiality.

List of Reedley College Agricultural Mechanics/ Mechanized Ag Advisory Committee Members

2015 Mechanized AG Advisory Committee Members		
Name (Last, First)		Company
Aikens	Tommy	Oxbo of Kingsburg
Alatore	Kathy	Quinn Used Parts, Manager
Barnett	Doyl	Quality Machinery Co
Bennett	Brian	Quinn Company
Brensel	Bill	AED Foundation
Clark	David	Reedley College Dean
Cruce	David	Papich Construction Inc.
Reyes	Ray	Quinn Rental Services, Store Manager
Fitzgerald	Mike	Valley Power Systems
Hunter	Cliff	JM Equipment
Martinez	Fred	Quinn Company, Service Manager-Selma
Miller	Matt	Fresno Equipment Company, Service Manager
Rodriguez	Hugo	Fresno Truck Center, Service Manager
Rodriguez	Juan	Quinn Company Trainer
Rogalsky	Ron	Gibbs International, Service Manager

Reedley College Equipment Technician Program
Advisory Committee Meeting
March 3, 2016
Reedley College

Minutes

Called to order: 6:45pm
Present:

Reedley College	Gary Wenter	Bill Brensel	AED Foundation
	Larry Dinis	Hugo Rodriguez	Fresno Truck Center
	Nick Deftereos	Mike Betts	Betts Company
		Brian Bennett	Quinn Company
		Tommy Akins	Oxbo International
		Juan Rodriguez	Quinn Company
		Ron Rogalsky	Gibbs Truck Centers

I. Welcome and Introductions

A. Industry/Company Reports

Gary W welcomed the group and introductions were made.
Juan Rodriguez – Quinn Company – Technical Communicator (TC) for 1 year now, 8 years as a trainer. Quinn has a lot of good techs that have come from this program. Currently have 19 tech openings company wide, always looking for qualified people.
Bill B – AED – Retired from Quinn – various jobs, various places. Currently evaluate Diesel Technology programs around the country.
Mike Betts – CEO of Betts Company. Manufacture spring and components as well as truck parts and service.
Hugo Rodriguez – Fresno Truck Center – business is good. Need techs, shop is expanding and will need more technicians as we grow.
Brian Bennett – Quinn Power Systems – also need techs in power systems area. Biggest recent news is the discontinued CAT on-highway truck. Truck service area will now focus on more industrial/power generation side of business. Brian is a proud RC graduate.
Josh (guest of Tommy Akins) – Oxbo – 16 years with the company, recently promoted to product support specialist – working directly with technicians
Tommy Akins – Oxbo – Josh just completed a 2-day training with our techs and our guys learned more in 2 days with him then if they had to send them back to factory training. Company has transitioned to using Product Support Specialists (PSS) to provide support for techs. Currently have Alec from RC and he is a model employee. Need a cloning machine so we can duplicate him. Alec was

very active and involved in the training today which forces the older techs to really up their game.

II. Program Orientation

Gary W gave some background information on why we would like to require an orientation – it all boils down to student success. Students entering into the 1-year certificate program will take 19 college units of a very intensive program. If students do not possess some background or good study skills, they really struggle. Based on the data we have collected from our Differential Aptitude Test students scoring below a 70% are unsuccessful in achieving a passing grade for all 19 units. By providing an orientation the instructors can provide prospective students with what to expect in the program as well as administer the aptitude test. Students scoring below a 70% would be counseled to take the 2-year path which allows students to progress at a slower pace. Counselors will be on hand during the orientation to assist students with registration, etc. Copies of the aptitude test were distributed and reviewed. Orientations are scheduled for 3/16, 4/6, 5/9, and 6/13.

Bill B stated that this idea is a great way to help bring the success level up. Bill moved that the Advisory committee approves the proposed orientation with all of its components (information about the program, aptitude test, and counseling).

Tommy A – Second the motion

Voice vote – motion carries.

III. Program Updates

A. Addition of 4th full-time instructor

Gary provided information on the possible addition of an instructor. Ultimately the addition is based on the budget. The outlook is very positive. Much discussion followed regarding who would be a good fit for the position

B. Pinot and Pints – April 2nd

This will be the 6th annual fundraiser for ABC. Expecting nice weather and a really good time.

C. FFA Field Day – April 16th

Expecting 700-800 FFA Students participating in over 11 contest areas. Ag Mechanics and Farm Power are the contest areas that we coordinate in our area. If you are available that day, please stop by and check out the contest and students. It will restore your faith in the youth of our country!

D. Career Day – April 29th

Last year we put on the first Mechanized Ag Career Day, had approximately 20 employees come and talk to students. They will have

resumes and are ready to find internships. Some students were hired on the spot.

E. AED Instructors Conference – June 2016

3 instructors heading back to Missouri this summer

F. AED Re-Accreditation – Fall of 2016

This year we are up for Re-Accreditation. Visit will be in the Fall and will involve an extensive evaluation of our program.

IV. Proposed Programs

A. On-Highway Truck Program

1. NATEF Curriculum, Shop Space for Instruction, Tooling, Equipment and Supplies, New Curriculum

Nick D gave the update on the program that was presented at the last meeting. Curriculum has been submitted and is pending approval. Discussion followed regarding the required space for the program. Gary W reported that our current program has outgrown the facilities we currently have, we are teaching subjects outside, in the weather that should really be taught in a cleaner environment. If this new program is going to work facilities need to be built.
Mike B – Would it be wise to submit a letter that acknowledges the space limitations and suggests that additional facilities be constructed? Discussion followed and committee agreed to draft a letter.
Juan R – Just curious, why do the On-highway program with the off-highway program? Seems like it would fit better for the Auto program.
Bill B – Around the country most heavy-duty truck programs are tied into the heavy-diesel programs instead of auto. Space limitations, tooling, etc make it a better fit. Also, when planning for facilities need to look at each area of instruction and plan for each area. Then you can come up with a comprehensive shop plan. CAT has an architectural group that will help you design a shop.
Ron R – International also has specs for shops when it comes time to design.
Mike B moved to approve the proposed On-Highway truck curriculum and the Certificate of Achievement for Heavy Duty Truck.
Ron R – Second the motion
Voice vote – motion carries

B. Ag Mechanics Program

1. 6 Classes: Dual Enrollment

Intro to AG Mechanics	MAG 40
Intro to Welding	MAG 41
Intro to Fabrication	MAG 44
Compact Engines	MAG 43
Electrical and Hydraulics	MAG 42
Machinery Technology	PLS 11

Larry D – provided the committee with an update on the program that was presented at the last meeting. Larry provided an overview of the curriculum along with the certificate and the degree on the board so the committee could see it. Several members requested the course outlines. Larry will email them to the members.
Hugo R – moved to approve the program of instruction along with the Certificate of Achievement and the Associate degree in Agricultural Mechanics.
Juan R – Second the motion
Voice Vote – motion carries

V. SCCCD Bond Initiative

Information was provided about the bond initiative
Much discussion followed regarding use of bond money to construct additional shop space. Several committee members indicated a desire to write a letter of support for the bond and specifically to encourage the district to utilize the money for construction of new shop facilities.

Meeting adjourned at 8:34pm

Respectfully Submitted

Nick Deftereos