

SUBSTANTIAL CHANGES TO AN APPROVED CREDIT PROGRAM

Criteria A.1 Statement of Goals and Objectives for Existing Program

Existing Program – Agricultural Science, AS Degree

The primary goal and major objective of the current Agricultural Science Degree is to give students a broad stroke of educational experiences inclusive of all Agricultural Career Pathways. This is accomplished through lecture based classes as well as hands-on instruction provided by courses that have a lab component. Lab instruction includes the utilization of the MJC Agricultural production instructional labs, (Nursery & Greenhouse; Beef, Dairy, Poultry, Sheep, Swine, and Wildlife production units; Power Mechanics & Fabrication shops; Vineyard, Grove, Orchards, & Forage crop production units on the MJC Beckwith Farm) for ‘hands-on’ lab activities. In addition professors organize industry field trips, promote student projects, provide internships, and worksite learning as well. Through these experiences students are provided a foundation on which to establish future educational goals and or assist students in entering the workforce in their Agricultural field of interest. In addition this program strives to offer leadership and community service activities to give the student a well rounded educational experience.

New Changes – Agricultural Science/Agricultural Education

The changes to the existing degree will not change the overall goals and objectives to the degree with the exception that it will give a student the clear objective to enter Agricultural Education as a career choice. It will also provide the student with a seamless transfer on to a four-year institution to complete a BS degree in Agricultural Science/Agricultural Education and to enter the Agricultural Teaching profession.

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Criteria A.2 Catalog Descriptions

Existing Program – Agricultural Science Associate of Science Degree

No description currently.

**Changes – Agricultural Science Associate of Science Degree
with the Agricultural Education Associate of Science Degree Option**

The Agricultural Science/Agricultural Education Degree provides training in Agricultural production inclusive of plant and animal production, and related careers in Agricultural education, sales, services, mechanized agriculture, and distribution of Agricultural-related products. Overall students will receive a broad based knowledge of agriculture and agribusiness management. A “hands-on” approach to student learning provides students with real world training and education in plant and animal production, farm and land management, equipment operations and repair, and much more.

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Criteria A.3 New Requirements

Current A.S. Degree in Agricultural Science

A.S. Degree: AGRICULTURAL SCIENCE

To earn an Associate in Science Degree in this major, the student must complete the requirements detailed in the Career Technical Education Pathway (p. 71) or the University Preparation Pathway (p. 69) which include completion of the requirements below.

I. AGRICULTURE CAREER COURSES (COMPLETE 5 UNITS)

AG	115	Introduction to Agriculture Education & Careers	1	
AG	349	A-D Work Experience (4 Units)	4	or
AG	249	Agriculture Internship	4	

II. AGRICULTURE SCIENCE BREADTH COURSES (COMPLETE 9 UNITS)

PLSC	200	Introduction to Plant Science	3	
ANSC	200	Introduction to Animal Science	3	
NR	200	Soils	4	
AGM	200	Introduction to Mechanical Technology	3	
AGEC	200	Agriculture Accounting & Analysis	3	or
AGEC	210	Elements of Agriculture Economics	3	or
AGEC	225	Agriculture Computer Applications	3	

III. AGRICULTURE MAJOR COURSES (COMPLETE 9 UNITS)

AGM	210	Agriculture Welding	3	
EHS	280	Beginning Floral Design	3	
ANSC	201	Beef Cattle Science	3	or
ANSC	202	Swine Science	3	or
ANSC	203	Sheep Science	3	
ANSC	220	Dairy Industry/Dairy Science	3	
ANSC	230	Poultry Science	3	
EHS	210	Introduction to Environmental Horticulture	3	
PLSC	230	Fruit Science	3	

IV. AGRICULTURE MAJOR ELECTIVE COURSES (COMPLETE 7 UNITS)

ANY CLASS NOT USED IN AREA II & III
ANY 200 LEVEL AGRICULTURE CLASS APPROVED BY ADVISOR
2 UNITS OF 300 LEVEL CLASS

TOTAL UNITS IN A.S. MAJOR 30

Proposed A.S. Degree in Agricultural Science with Agricultural Education Option

A.S. Degree: AGRICULTURAL SCIENCE/AGRICULTURAL EDUCATION

To earn an Associate in Science Degree in this major, the student must complete the requirements detailed in the Career Technical Education Pathway (p. 71) or the University Preparation Pathway (p. 69) which include completion of the requirements below.

I. AGRICULTURE CAREER COURSES (COMPLETE 5 UNITS)

AG	115		<i>Introduction to Agriculture Education & Careers</i>	1	
AG	349	A-D	<i>Work Experience (4 Units)</i>	4	or
AG	249		<i>Agriculture Internship</i>	4	

II. AGRICULTURE SCIENCE BREADTH COURSES (COMPLETE 9 UNITS)

PLSC	200		<i>Introduction to Plant Science</i>	3	
ANSC	200		<i>Introduction to Animal Science</i>	3	
NR	200		<i>Soils</i>	4	
AGM	200		<i>Introduction to Mechanical Technology</i>	3	
AGEC	200		<i>Agriculture Accounting & Analysis</i>	3	or
AGEC	210		<i>Elements of Agriculture Economics</i>	3	or
AGEC	225		<i>Agriculture Computer Applications</i>	3	

III. AGRICULTURE MAJOR COURSES (COMPLETE 9 UNITS)

AGM	210		<i>Agriculture Welding</i>	3	or
AGM	289		<i>Principles of Power Mechanics and Small Engines</i>	3	
ANSC	201		<i>Beef Cattle Science</i>	3	or
ANSC	202		<i>Swine Science</i>	3	or
ANSC	203		<i>Sheep Science</i>	3	
ANSC	220		<i>Dairy Industry/Dairy Science</i>	3	
ANSC	230		<i>Poultry Science</i>	3	
EHS	210		<i>Introduction to Environmental Horticulture</i>	3	
EHS	280		<i>Beginning Floral Design</i>	3	
PLSC	205		<i>Field Crops</i>	3	or
PLSC	215		<i>Vegetable Crops</i>	3	or
PLSC	230		<i>Fruit Science</i>	3	
NR	220		<i>Introductory Forestry</i>	3	

IV. AGRICULTURE MAJOR ELECTIVE COURSES (COMPLETE 7 UNITS)

AGRICULTURAL SCIENCE OPTION

Any Class Listed But Not Used in Area II or III

Any 200 Level Agriculture Class Approved by Advisor

Up to 2 Units of any 300 Level Agriculture Class Approved by Advisor

AGRICULTURE EDUCATION OPTION (COMPLETE 7 UNITS)

AG	100B		<i>Leadership in Agriculture</i>	2	
AG	120		<i>Introduction of Agriculture Education</i>	2	
AG	130		<i>Agriculture Education Early Field Experience</i>	2	
AG	285		<i>Agricultural Communications</i>	3	
AGM	214		<i>Equipment Service & Safety</i>	1	

TOTAL UNITS IN A.S. MAJOR

30

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Criteria A.4 Background Rationale

The option to add the Agricultural Education option to the Agricultural Science degree has been vetted with the major CSU and UC transfer institutions that prepare future Agriculture Educators. Those colleges include: CSU Chico, Fresno, & Stanislaus; Cal Poly, SLO; and UC Davis. This option was developed by comparing the Agricultural Education requirements for each of these institutions and then mirroring, as much as possible, the MJC Agricultural Education option to the CSU and UC requirements. The driving force behind this proposed change is to give future Agricultural Education students the opportunity to complete a program that will provide a seamless transfer to the California four-year institution of their choosing.

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Criteria B.5 Enrollment and Completer Projections

Enrollment is strong in the current program and it is anticipated that with these changes completers will increase as the change will enable students to complete an Associate of Science degree and transfer easily into Agricultural Education programs at any of the California Agriculture CSU's or UC. Students that complete the MJC Agricultural Science degree with the Agricultural Education option will be able to be at the junior level upon transfer, meeting all lower division GE and major requirements, and will be prepared to complete their BS degree in just two more years.

The goal is to maintain a flow of 20 to 25 students per year through the Agricultural Education option of this program. Some potential Agricultural Education students will choose to complete their AS degree in another Agriculture degree other than Agricultural Science, but will still complete the Agricultural Education option as presented. This may skew the total number of completers somewhat. Realistically the goal will be to produce 15 – 20 completers per year. This will help substantially in meeting the need for transfer students to our CSU and UC partners in Agricultural Education.

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Criteria B.6 Place of Option in the Curriculum

The addition of the Agricultural Education option to the Agricultural Science Associate of Science degree is a perfect fit. The current degree as offered with the addition of a few new general agriculture course offerings, along with the additional five courses offered specific to the Agricultural Education option will provide students with a seamless transition upon transfer to the California Agriculture CSU or UC of their choice.

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Criteria B.7 Impact on other colleges in the region

There should be little or no impact on other colleges in central California. The existing program is already a comprehensive agriculture program and as this is only a revision, it does not change the intent or dynamics of the current program. Demand is high and growing with degree seekers coming to Modesto Junior College from outside the service area and state.

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Criteria B.8 Labor Market and Job Availability

A major problem looms on the horizon in high schools and colleges as the supply of Agricultural teachers continues to shrink. In a 2007 study by the American Association for Agricultural Education, it was estimated that the nationwide supply of secondary and postsecondary teachers of agriculture has fallen to a historical low, leaving 38% of openings unfilled. The study concluded that the inability to find qualified vocational educators is forcing many educational institutions to rely heavily on retired teachers, graduate students, teachers outside the discipline, or non degree-seeking candidates.

Closer to home California ranks among the most predominant states nationwide impacted by the small supply of Agricultural Education candidates. This decline has not only reduced the number of professionals with applied vocational skill and knowledge, it has impacted the ability of the California public education system to find qualified agricultural teachers who can adequately prepare future professionals at any level. A 2006 report by the California Department of Labor ranks Career Technical Education (CTE) teachers amongst the most needed in the State. Occupational growth is estimated at 30.5% through 2014. In order to attract an increased number of diverse students to a future in Agricultural Education, there must be a well defined educational pathway and strong programmatic elements and incentives.

According to the California Polytechnic University site “California Agriculture Teaching Opportunities”, there were 22 unfilled Agriculture teacher positions out of 103 posted vacancies in September 2008. To have a 21% deficit at the beginning of a school year when federal and state initiatives are reinvigorating the importance of Career and Technical Education (CTE) in our public education systems, is evidence that our schools are still ill prepared to answer the question posed by Ann Dykman in a 1993 Vocational Education Journal article, “Who Will Teach the Teachers?”

In a September 2008, Dr. Lloyd McCabe compiled a study for the California Department of Education on opportunities and placement history for teachers, interns, and student teachers in the Agricultural education pipeline. These data specifically support the need for a stronger Agricultural Education Pathway from the high schools to community colleges to universities. The information gathered shows a consistent trend of jobs in Agricultural education at the secondary level of approximately 100 openings annually in recent years and a current total pool of only 60 students identified in the pipeline to fill the need. The numbers required to close the gap for Agricultural Education alone are staggering.

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Criteria C.9 Curriculum Standards

Transfer articulation agreements are in place with CSU Chico, Fresno, Stanislaus; Cal Poly San Luis Obispo, and UC Davis for most of the courses required for the MJC Agricultural Science/Agricultural Education Degree. Some new articulations will be requested based on the approval of this new degree option.

Attachment: Course outlines for required courses (required for all applications).

Attachment: Articulation Agreements (if applicable).

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Criteria C.10 Adequate Resources

Resources are in place to operate the current Agricultural Science degree program. Adding the Agricultural Education option does not add to the cost of operating the program. Therefore there will be no adverse impact on resources. Adequate resources will continue to be available.

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Criteria C.11 Compliance

At this time there is no mandatory licensing or accreditations specific to the Agricultural Education AS degree at the community college level.