AGRICULTURE ECONOMICS: DEVELOPING HIGH SCHOOL CURRICULUM FOR A SENIOR GRADE LEVEL CLASS

A Project
Presented
to the faculty of
California State University, Chico

In Partial Fulfillment
of the Requirements for the Degree
Master of Science
in
Agricultural Education

by
Erin M. Peters
Spring 2014
AGRICULTURE ECONOMICS: DEVELOPING HIGH SCHOOL CURRICULUM FOR A SENIOR GRADE LEVEL CLASS

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DEDICATION

This master's project is dedicated to my parents, Joe and Nancy Goss, for always pushing me to go farther than I ever thought I could go.

Also, to my husband, Todd Peters, for always being there to support me when I wanted to throw in the towel. I can never thank you enough.
ACKNOWLEDGMENTS

Thank you to all of the committee members and professors for their guidance and support in my quest for this degree. Your examples of teaching have become a model to me to use in my future teaching career. I hope to be as an effective instructor as you have been to me.

I would especially like to thank my husband, son and parents for their unending support throughout this endeavor.

Lastly, I would like to thank my students for their interest in education. You are a daily reminder of why I chose to go in to the field of education as a profession.
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ABSTRACT

AGRICULTURE ECONOMICS: DEVELOPING HIGH SCHOOL
CURRICULUM FOR A SENIOR GRADE LEVEL CLASS

By

Erin M. Peters

Master of Science in Agricultural Education

California State University, Chico

Spring 2014

The objective of this project was to establish the need to add an agriculture based economics and government class at a local high school. The high school is located in Northern California and is surrounded by agriculture. In fact, many graduates acquire agricultural positions after high school. The high school has been open nine years and is still developing classes that connect the community and other programs on campus. As the campus grows and expands, the administration requested various departments to develop courses to meet the needs of students as well as develop skills relevant to post secondary education or the work force. The agriculture department sought to develop a senior level course that addressed graduation requirement for government and economics. After the need to offer the course was confirmed, efforts were then devoted to develop a class syllabus, class outlines and sample lessons to be taught in the class for approval.
CHAPTER I

INTRODUCTION

Purpose of the Project

A need exists for students to have a wide variety of classes and electives as they complete secondary education. As agriculture programs develop in schools, it is important for school sites to be aware of the importance of agriculture education and its importance in the Californian economy, given the over 23 million agriculture related jobs in this country. Thus, it is important to determine how schools can better prepare students to be successful in the future, regardless of their decision to pursue post secondary education or enter the workforce.

Students studying agriculture at the secondary level, as well as the post-secondary level, have a vast range of career options that may be explored such as agribusiness, plant science, range management, animal science as well as agriculture education. According to the California Department of Education (2013), during the 2012-13 academic school year, 1,290 agriculture courses were taught at the secondary level that met the A-G requirement for the University of California system. This allows students to select a variety of classes that will prepare them for the agriculture industry as well as prepare them to move on to a four year university and transition students into a professional career.

Educational Need

There is need for students to have more options for senior level classes within the
agriculture department at River Valley High School. River Valley High School opened in 2005 with a strong administrative directive to increase freshman and sophomore student success in the areas of math and science, particularly students who struggled to meet basic requirements for high school graduation. Offering additional courses to freshman and sophomores created limited course options for agriculture students during their junior and senior years in high school. The greatest need for agriculture courses falls in the senior year, as students have more room for electives, yet fewer class options.

Scope of the Project

The purpose of this project was to develop a course that could be taught to senior level students after completing other agriculture courses in the career pathway. After establishing a need for a course, a course syllabus should be developed outlining the basic concepts and standards that must be taught in order to meet graduation requirements. Additionally, a unit plan and sample lesson plans should be developed to begin the course approval process.

Significance of the Project

In today’s educational system, it is important to retain students in an agriculture program to ensure students leave secondary education with an adequate understanding of the agriculture industry. Perhaps the most ideal time to expose students to advanced concepts in agricultural education is at the secondary level. Diverse career opportunities exist for students in agriculture. Additional exposure to the application of agriculture as science is important as generations of families move farther and farther from connection
to their food and fiber system (Wheelus, 2009). The assortment of subject matter allows students pursuing agriculture as a career a method of structuring their studies when advised effectively by teachers, counselors, administrators and other mentors. This also would assist in the transition to a post secondary education by establishing familiarity with the student’s chosen field of study (Wheelus, 2009).

Limitations of the Project

Throughout the development of this course, several limitations were addressed. For example, as the idea of additional courses for seniors was presented to the school, the concept was met with some hesitation. First, the counseling department was unsure about offering more choices for senior economics requirement. Second, teachers of the social studies department were concerned the agriculture department would entice too many students and as the students left to join the agriculture department, the social studies department would lose sections of the class and thus loose teachers.

After much debate and administration becoming involved, it was resolved that the agriculture department would not shift as much of the population of students and teachers and sections would remain. The social studies department also agreed to assist the agriculture instructors develop a basic unit plan.
Table 1 – Definition of Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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<tbody>
<tr>
<td>4H</td>
<td>4-H in the United States is a youth organization administered by the National Institute of Food and Agriculture of the United States Department of Agriculture (USDA), with the mission of “engaging youth to reach their fullest potential while advancing the field of youth development”</td>
</tr>
<tr>
<td>4 Year University</td>
<td>an institution for higher learning with teaching and research facilities constituting a graduate school and professional schools that award master's degrees and doctorates and an undergraduate division that awards bachelor's degrees.</td>
</tr>
<tr>
<td>A-G Requirements</td>
<td>the Subject Requirement, more commonly referred to as the &quot;a-g&quot; subject requirements, is one of three requirements needed to enter UC as a freshman.</td>
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<tr>
<td>Agriculture</td>
<td>the science, art, or practices of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products</td>
</tr>
<tr>
<td>Commodity</td>
<td>a product of agriculture or mining</td>
</tr>
<tr>
<td>Common Core Standards</td>
<td>The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them</td>
</tr>
<tr>
<td>Course Syllabus</td>
<td>An outline or a summary of the main points of a text, lecture, or course of study</td>
</tr>
<tr>
<td>Extracurricular Activities</td>
<td>Extracurricular activities are those that fall outside the realm of the normal curriculum of school or university education, performed by students</td>
</tr>
<tr>
<td>FFA</td>
<td>The National FFA Organization is a dynamic youth organization that changes lives and prepares students for premier leadership, personal growth and career success through agricultural education</td>
</tr>
<tr>
<td>Macroeconomics</td>
<td>a study of economics in terms of whole systems especially with reference to general levels of output and income and to the interrelations among sectors of the economy</td>
</tr>
<tr>
<td>Microeconomics</td>
<td>a study of economics in terms of individual areas of activity</td>
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<tr>
<td>Natural Resources</td>
<td>A material source of wealth, such as timber, fresh water, or a mineral deposit, that occurs in a natural state and has economic value</td>
</tr>
<tr>
<td>Niche</td>
<td>The particular area within a habitat occupied by an organism</td>
</tr>
<tr>
<td>Post Secondary Education</td>
<td>Education beyond the secondary level, especially education at the college or university level</td>
</tr>
<tr>
<td>Sustainable Agriculture</td>
<td>A method of agriculture that attempts to ensure the profitability of farms while preserving the environment</td>
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</table>
CHAPTER II

REVIEW OF LITERATURE

As agriculture changes at a rapid pace through advancements in science and technology, new opportunities for the industry to address economic, social and environmental issues exist (Williams & Dollisso, 1998). Agricultural practices which address profitability, while meeting human needs and improving the environment are commonly known as a sustainable agriculture. Firebaugh (1990) suggested “the basic understanding of sustainable agriculture was to (1) improve natural resources, (2) protect the environment, (3) ensure profitability, (4) conserve energy, (5) improve food quality and safety, and (6) create a more viable socioeconomic infrastructure for farms and rural communities” (p. 674-676).

The Executive Summary of the Reinventing Agriculture Education for the year 2020 (RAE 2020) initiative, A New Era in Agriculture (National Council, 1999) provided the following information about how agriculture should be viewed:

Agriculture is a field that encompasses the production of agriculture commodities, including food, fiber, wood products, horticulture crops, and other plant and animal products. The terms include the financing, processing, marketing, and distribution of agricultural products; farm production, supply and service industries; health, nutrition and food consumption; the use and conservation of land and water resources; development and maintenance of recreational resources; and related economic, sociological, political, environmental, and cultural
characteristics of the food and fiber system (p.2).

The Vision and Mission for agriculture education created from the RAE 2020 included a view that encompassed more than production, including the following:

**Vision:** Agriculture education envisions a world where all people value and understand the vital role of agriculture, food, fiber and natural resources industries in advancing personal and global well being.

**Mission:** Agriculture education prepares students for successful careers and a lifetime of informed choices in the global agriculture, food, fiber and natural resources industries (p.2)

As the focus of education transforms and perspectives of agriculture change, modifications must be made in the education system as well. According to Huang & Howley (1991), economic development initiatives in rural areas could capitalize on these trends by focusing on new investments and development within the agriculture sector. In this study, the agriculture sector included food processing, warehousing and distribution, landscaping, equipment fabrication and repair, gardening and ‘niche’ farming.

Additionally, rural areas that fail to attract investment or launch economic development efforts tend to be more educationally disadvantaged. Educated students will be more likely to leave rural areas as opposed to those that are less educated (Huang & Howley, 1991).
Conroy (2000) suggested secondary agriculture education programs can be a very vital piece of a community’s economic development. As agriculture continues to demonstrate an increased need for research and development, marketing, distribution and communications, educational program must shift the emphasis from production agriculture to a broad knowledge of skills in agriculture occupations beyond production and prepare students to work in locally based agriculture firms. Schools must focus on economically viable agriculture, such as food, fiber and natural resources. Schools also need to provide career education and coursework in relevant subjects that capitalize on student interests which may lay the foundation for future career options (Conroy, 2000). However, recruitment into those types of programs may continue to be an issue.

According to Dyer and Breja (2000), the major obstacles to successfully recruiting students into agriculture programs are those associated with scheduling difficulties, guidance counselor support, competition from other programs and activities, image of agriculture, access to students, administrative support, and teachers having time to recruit. The authors noted that these issues must be addressed in order to successfully recruit students. Research on the effectiveness of various marketing methods for 4-H and FFA found that word-of-mouth was the most effective strategy, while the use of tangible items such as book covers, bookmarks, and buttons were rated as the least effective method (Wingenbach, et al., 2000).

Educators should inform students about careers and help students make informed choices about possible careers in the agriculture industry. According to Gray (1996), over half of American youth leave high school without skills or inadequate skills to
compete in today’s labor market. In addition, students lack information about careers, career clusters, and emerging work systems. Educators and school personnel must guide students to make proper educational choices and prepare them for a career with viable future employment.

As students complete secondary education, it is important that educators provide ample opportunities for students to gain a wide variety of skills and become ready for the work force or a post-secondary education. According to Foreman and Retallick (2012), involvement in extracurricular activities correlates to test scores and success after high school. These researchers found students who were more involved in school clubs and sports scored higher on state testing and placement exams for college.

High School Need

In a typical high school setting, students complete four years of courses through the social studies department. According to Jenness (1990), a typical sequence of courses that a student might complete includes freshman geography, sophomore world history, junior United States history and then finally, senior level economics and government.

The mandate of teaching government and economics at the secondary level began in the 1980’s, according to Walstead (2001). Several states, including Alabama, Arizona, Georgia, Louisiana, Oregon, South Carolina and Tennessee, were the first to mandate that high school students be taught these subject areas at the secondary level. It was not until mid 1990’s that California added the requirement for high school graduation.
Watts (2006) reported that states requiring economics for high school graduation, typically teach the content by following the state-adopted standards, which are supported by a textbook. This format is generally one in which teachers provide direct instruction through a lecture format as well as encouraging student discussion. Teachers follow the text from beginning to end, covering concepts of theoretical and applied micro and macroeconomics. Variation from classroom to classroom exists, as teachers vary the sequencing of the course and add content through lessons and activities to offset the textbook. The variation largely results from the autonomy of each teacher; as teachers and the school district remain ultimately responsible for designing the course curriculum.

Finkelman and Hanson (2011) found educators may seek methods to strengthen their economics education programs. The study confirmed that students benefited from the combination of a professional development programs and ongoing support from teachers. As teachers are provided access to training programs, in-service workshops, or opportunities to develop curriculum, they gained enthusiasm for the content. The resulting teacher enthusiasm translated into the success of the student population (Finkelman and Hanson, 2011). As some students are successful, the bar will rise for others on the same campus, thus creating a culture of high expectations. In return, students will gain knowledge that will prepare them for the work place and/or college.

Salvador, Countryman, and Miller (1995) saw the need for students in agriculture to develop competencies to solve problems in multiple-goal situations. Useful materials for problem-based, experiential teaching are incorporated into curricula and courses in agricultural programs worldwide. Many schools have incorporated problem-based team
projects on real-world situations as a means of providing students with integrative and meaningful experiential learning. Classes select their own problems, identify the subject matter competencies required to confront the problems, determine team membership based upon these competencies, and spend a significant portion of a semester in out-of-class activities researching their problems and developing recommendations to confront the problems (Bentley et al., 1992). Classes may present recommendations before an audience composed of class members and/or clients for whom they have developed their plan and recommendations. Grades are assigned in a way that recognizes both the effectiveness of a team in meeting its assignment and the contribution of each individual to team activities. Pearson and Ison (1992) stated that student evaluations of these courses indicate students recognize the integrative nature of the problem-based team activities and appreciate the practical value of this teaching approach. This also moves the agriculture classroom towards the “common core” standards for math and English. Stiggins (1999) stated that policy makers have intensified reliance on high stakes standardized testing at all levels, considerations of quality classes and types of assessments are becoming much more important. Although standardized testing plays an important role in the classroom, the 2014 school year is a “transition year” for the secondary teachers to implement new curriculum as well as develop new classes that will better ready current high school student for the work place or college.

Students prepared with an assortment of problem solving approaches will undoubtedly be better able to confront complex situations than those who must adapt all problematic situations to suit their only tool. Salvador, Countryman, and Miller (1995)
stated there is a proper place for the application of reductionism, but the teaching of agriculture as the infallible application of reductionist science to the natural world has discouraged normal and healthy questioning of principles and practices in their ecological and social context. With diversity comes versatility, and as Campbell and Martin (1992) postulated, different inquiry methodologies are suitable for different purposes. One primary objective of successful agricultural education should be for students to perceive agricultural science above all as a human activity, responding to human needs and subject to human fallibilities. This perspective allows students to recognize the limitations of scientific reductionism as an exclusive method of inquiry and to appreciate that the best educated scientist knows when and where to apply the techniques of reductionism, and when and where to apply more comprehensive approaches (Wilson and Morren, 1990).

Despite the existence of literature and experience (McRae et al., 1989), many agricultural educators may not be aware of the research that has been devoted to teaching strategies and techniques that produce agriculturists competent to address agricultural issues in broad, systemic fashion (Foster & Pikkert, 1991). As early as 1982, the USDA, academic deans of land-grant universities, and several industry sponsors supported the creation of a National Agricultural and Natural Resources Curriculum Project whose purpose was to develop new curricula and instructional approaches for six priority areas (Wilson & Morren, 1990, p. 59):

1. Systems analysis in food, agriculture, and natural resources

2. Problem solving

3. Ethics and public policy
4. Cultural and social aspects of domestic and international agriculture

5. Energy use in food and agriculture

6. Integrated reproduction management

The integration of agricultural curriculum brings learning to life. Educators suggested integration of agriculture into the general curriculum allows students to learn based upon the arguments of experiential learning (Mabie & Baker, 1996), a community-based curriculum (Fasheh, 1990), and authentic or applied learning in real-life situations (Wehlage, Newmann, & Secada, 1996). Teachers believe schools play an important role in the education about agriculture, food, fiber, and natural resources (Trexler, Johnson, & Heinze, 2000). Further, teachers have noted links between student understanding of food and food production to developing a respect for nutrition, agriculture’s role in society, and the environment (Trexler et al., 2000).

Interdisciplinary education is the key to engaging people to think deeply about agriculture and its role in society (Lockwood, 1999). The theory of integration underpins the teaching of agricultural topics across the general curriculum because integrating agriculture would likely enhance learning experiences. A diversity of concepts and epistemologies from one content area can enrich student understanding in a different content area (Boix-Mansilla, Miller, & Gardner, 2000). As a result, students discover patterns, see the “big picture” and different perspectives about a topic, and develop greater knowledge of other content areas (Boix-Mansilla et al., 2000; Grossman,
Wineberg, & Beers, 2000) from their experiences within an integrated curriculum. As such, integrating agriculture across the curriculum could enrich student understanding of agricultural concepts and ways of thinking (Ivanitskaya, Clark, Montgomery, & Primeau, 2002).

The National Research Council (1988) asked that new efforts be made in secondary education programs to better prepare students for the agriculture industry. The need for ongoing efforts to upgrade the scientific and technical content of the programs must be emphasized. With that said, sustainable agriculture should be taught at the secondary education level and the goal of enhancing the high school program would be met. According to the University of Kentucky (2012), to be truly sustainable, a farm must be economically viable. The environmental and social benefits of sustainable production methods do not always translate into immediate economic gains. However, sustainable agriculture practices can have a positive economic impact on a farm. For example, diversifying farms with several crops and markets may reduce financial risk. Over time, improved soil and water quality, as well as other environmental benefits from sustainable practices, may increase the value of the farm. Selling products directly to local markets reduces shipping and fuel costs and can potentially decrease transportation costs (ATTRA, 2003). While sustainably grown produce may not generate premium prices often associated with certified organic products, growers selling directly to individuals and specialty markets can still capture added value.
CHAPTER III

METHODOLOGY

Objective 1 - Determine the need for a senior level Agriculture course geared towards economics and government

A prior needs assessment was analyzed to determine the interest of an additional agriculture class designed to address graduation requirements for government and economics. The instrument included 10 questions to determine student interest. Previous research results were reviewed by the staff at River Valley High School and revealed that 64% of students surveyed believed more options should be available to meet graduation requirements for senior level government and economics. Further, 89% of students suggested agriculture instructors do a better job of explaining directions and course content compared to other departments on campus.

Objective 2 – Syllabus development

Additional data suggested a need to develop a senior level class that could also meet graduation requirements. Thus, the development of a course syllabus for an agriculture economics and government class was initiated (see Appendix A). The syllabus was created using curriculum developed in conjunction with River Valley High Schools social studies department and teachers. Additionally, state standards are well as the Common Core standards were consulted to ensure the course would meet the learning objectives necessary to comply with graduation requirements (see Appendix B).
Objective 3 – Development of Unit Plan

After the syllabus was developed, a unit plan (see Appendix C) was designed in order to meet the standards taught in the social studies department as well as tie agriculture standards and industry topics to the units.

Objective 4 – Sample Unit Lesson Plan

After a course syllabus and outline were developed a sample course lesson plan must also be prepared to show school administration as well as go for approval to the school board. At this time, work was conducted with social studies teachers to implement agriculture knowledge into key topics of the class. Lecture notes, class assignments as well as assessments were developed to present to the school administration and school board.
CHAPTER IV
RESULTS AND DISCUSSION

Objective 1- Determine the need for a senior level Agriculture course geared towards economics and government

The results of a previous needs assessment indicated a need for a senior level agriculture course that met economics and government graduation requirements. Conversations were initiated with social studies teachers to explain the connection between agriculture and government and economics courses. Local teachers were willing to consider the agriculture based community and sought to identify agricultural connections to the unit topics and implemented into current curriculum standards.

Objective 2 – Syllabus development

The first step in the process of developing the course was to collaborate with teacher in the field of social studies to understand current trends addressed in the course. The agriculture and science departments have a similar syllabus format designed to create uniformity between classes. The common syllabus for the social studies department was reviewed and compared to the syllabus of the agriculture department. Some changes were to meet the needs of the social studies requirements as well the requirements of the agriculture department. Revisions of the class rubric and grading scale were also completed (see Appendix A).
Objective 3 – Development of Unit Plan

The next step in the process of developing this class was to begin the actual planning of the structure of the class. River Valley High School operates on a 4 x 4 block schedule that allows for an entire economics and government class to be taught in one semester of the school year. Students either take the course in the fall or spring semester, depending on their class schedule.

As units were analyzed, each topic was reviewed and dissected to see determine the incorporation of agricultural concepts. At this time, state standards were assigned to each unit (see Appendix B).

Objective 4 – Sample Unit Lesson Plan

Following completion of the unit plan, a sample lesson was written in order to submit for final approval to the school board. Lesson development included lecture notes, worksheets; activity and a culminating activity (see Appendix C).
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Results from a previous instrument indicated adequate support existed to develop a course for an agriculture economics and government class. The first step in the process was to develop a course outline as well as a course syllabus. That information was then presented to the school administration, district office and finally the school board for final approval. After approval was given, course sequencing was developed as well as develop sample lesson plans to be reviewed by the social science department and school administration.

Recommendations for this process would be to further develop this class in order to have it approved for A-G credits to meet acceptance requirements to the University of California system. In order to complete this process, the course outline would be expanded and more specifics provided for units and lessons. This goal is supported by the school district, as they desire to have more courses approved to meet entrance requirements for the UC/CSU Systems.
REFERENCES


Finkelstein, N. & Hanson, T. (2011) *Effects of problem based economics on high school economics instruction*. 2011 SREE Conference Abstract


University of Kentucky, (2012). *Sustainable Agriculture Program (University of Kentucky).*  http://www2.ca.uky.edu/sustainableag/


APPENDIX A
Course Syllabus

River Valley High School
Agriculture Department
Course: Agriculture Economics and Government

Instructor: Mrs. Erin Peters

Course Length: one term on a 4x4 block schedule
10 units

Text: Introduction to Agricultural Economics
Penson, Capps, Rosson and Woodward
Fourth Edition

Course Content: An overview of the role agriculture business plays in the United States and world economies. Production and supply, marketing and demand, resource allocation, commodity pricing under perfect and imperfect competition will be some the topics discussed, as well as social and economic challenges of agriculture in urban and industrialized economies emphasizing California.

Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Classwork</td>
<td>60%</td>
</tr>
<tr>
<td>Test/Quiz</td>
<td>20%</td>
</tr>
<tr>
<td>Participation</td>
<td>10%</td>
</tr>
<tr>
<td>FFA Activities</td>
<td>10%</td>
</tr>
</tbody>
</table>

Grades are assigned on a standard scale (90%=A, 80%=B, 70%=C, 60%=D, below 60%=F)

Administrative Matters

Quizzes and Exams
Tests and Quizzes will be given on a weekly basis. Most test days will fall on a Friday but are subject to change according to school schedule changes.
Late Assignments
Late assignments will not be accepted unless there is evidence of a serious or compelling reason...under most circumstances, they won't be accepted. If they are accepted, one grade letter will be dropped for each class period it is late.

Classroom Behavior
- Students are expected to attend, pay attention and participate in class meetings.
- Students may not read other materials (newspapers, magazines, etc.) in class.
- Students are to remain in class during the entire session unless prior arrangements are made.
- Students are expected to exhibit professional and courteous behavior in the classroom to all.
- Inappropriate behavior, foul language and unacceptable behavior won't be tolerated.
- Using material previously used for another class will not be tolerated.

Phones, Pagers, PDA's
Please turn off all of this equipment when you come into class. I understand that you might forget and I will try to remember to remind everyone at the beginning of class. If you forget and your phone rings, please quickly turn it off. Please do not text message anyone during any class! If I have to turn off my phone and pay attention, so do you!

Grade Discrepancies
Students have the right to challenge any grade they are given. If you choose to do so, you must resubmit the grade in question no longer than one week after it is returned to the class. If you miss the class that it is returned, you must submit the grade for review within the class period you return to class. Please know that if you challenge your grade, I will regrade the entire paper, not just the answer you feel is graded incorrectly. Also, know that I can make mistakes and I want you to check your answers to make sure you got the credit you deserved. This policy alleviates a student coming to me after the semester is over and arguing for 3 points from the second week of the semester.

Teaching Style
Because this class has a textbook, I will be presenting the necessary information in class in handwritten, outline form. There is a lot of information to be presented in each class period and I feel that if I take the time to write it, students should be able to keep up. I also feel that having you write it out yourself, helps you process what you're learning. I will take time between each topic to ask for questions, comments, stories, etc. I want your participation - whether you understand the material and want to give an example to help the rest of the class relate or don't understand and need to take some extra time to clarify. There is a substantial amount of material we will cover in this class and I want to make sure each student has an opportunity to learn.
APPENDIX B
Unit Outline

Outline for Agriculture Economics
Common Core (CC) Standards for History and Social Sciences attached to each topic

I. Intro. & Agribusinesses, Food Systems, Ag. Management
   a. 8 Key factors that differentiate food and agribusiness from other business markets. (CC – 1, 5, 9)
   b. Food Production and Marketing (CC – 1, 2)
   c. Farm Bill Discussion (CC – 8)

II. Ag. Econ. and the Food & Fiber Ind.
   a. Microeconomics vs. Macroeconomics (CC- 1, 2, 6)
   b. What is Economics? (CC- 1, 9)
   c. What does an Ag Economist do? (CC – 3, 4)

III. Consumer Behavior, Equilib. and Mkt. Demand
   a. Utility Theory (CC- 4)
   b. Indifference Curves (CC- 4)
   c. Budget Constraints (CC – 4, 9)

IV. Elasticity’s and Production & Resource Use
   a. Income elasticity on demand (CC- 4, 5)
   b. Cross price elasticity of demand (CC – 5, 6)
   c. Perfect competition (CC- 4,5)

V. Input/Product Sub. and Perfect Competition
   a. Derivation of the market supply curve (CC- 1, 2, 3)
   b. Market equilibrium under perfect competition (CC - 2)
   c. Adjustments to market equilibrium (CC – 6, 7)

VI. Imperfect Competition and Test Review
   a. Market structure characteristics of imperfect competition (CC – 5)
   b. Imperfect competition in selling (CC – 2, 3)
   c. Government regulatory measures (CC – 7, 8, 9)

VII. Natural Resources and the Environment
    a. Agriculture and the environment (CC- 1, 4, 7)
    b. Economics of the environment (CC- 4, 5, 6)
    c. Government policies for agriculture (CC – 6)
VIII. Government Intervention in Agriculture
   a. Why have government interventions? (CC – 7, 8, 9)
   b. Farm economic issues (CC- 10)
   c. Consumer issues (CC – 5)
Outline for Government

Common Core (CC) Standards for History and Social Sciences attached to each topic

I. Nature of Power
   A. Personal Power Assessment (CC – 2)
   B. Annotated Readings about power, government, theories of the formation of the state (CC – 1, 2, 5)
   C. Types of governments (CC – 4)

II. Constitution
   A. Six Basic Principles (CC- 4, 10)
   B. Annotated Reading of the document (CC- 6)
   C. Foundations background (British documents/Revolutionary era) (CC – 9)
   D. Federalism (CC- 2, 10)

III. Political Participation
   A. Voter Qualifications and Behavior (CC – 8, 9)
   B. Political Parties/Nominations and elections (guest speaker from California Farm Bureau) (CC- 7, 8, 9)
   C. Interest Groups (CC – 3)

IV. Legislative Branch
   A. Congressional Simulation (CC- 1, 7)
   B. Bill to a Law (CC – 8, 9)

V. Executive Branch
   A. Presidential Power (CC – 4)
   B. Electoral College/revisit nominations and elections (CC- 1, 3)

VI. Judicial Branch
   A. Federal vs. State (CC – 1, 3)
   B. Hierarchy (CC – 1, 3)
   C. Civil Liberties vs. Civil Rights (CC- 1, 3)
   D. Rights of Accused (CC- 1, 3)

Ongoing Project—Doing Democracy: Students are engaged in a variety of activities to increase their awareness of and involvement in the political process. The project culminates in them researching a public issue and then disseminating what they learned to the community through one of fifteen different forms of civic participation.
APPENDIX C
Introduction Economics Notes:

8 KEY FACTORS THAT DIFFERENTIATE FOOD AND AGRIBUSINESSES FROM OTHER BUSINESS MARKETS

A. FOOD AS A PRODUCT
   1. Fundamental human need (not clothing or automobiles)
   2. Considered a critical component of national security (we all must eat and feed ourselves)
   3. Attracts substantial government attention (financial aid, food safety enforcement)

B. BIOLOGICAL NATURE OF PRODUCTION AGRICULTURE
   1. Crops and livestock are living things
   2. Weather, pests, disease, weeds, climate, gestation periods all affect outcome and are unpredictable.

C. HIGHLY SEASONAL BUSINESSES
   1. Supply driven – corn/soybeans harvest in fall
   2. Demand driven – turkeys/cranberries at Thanksgiving

D. UNCERTAINTY OF WEATHER
   Drought, flood, insects, etc, can ruin a crop, retail promotion plans, etc.

E. TYPES OF FIRMS
   1. Huge variety of different businesses involved.
   3. Producers, transportation, broker, wholesaler, processor, manufacturer, storage, mining, financial institutions, retailers, food chains, restaurants, etc.

F. VARIETY OF MARKET CONDITIONS
   1. Global vs. local (beef producer – selling beef to Japan or to a local FFA member for a project)
   2. Influence (or not) over price (selling own produce at a farmers market – price influence or a milk producer – no influence)
   3. Monopoly, duopoly (Coca-Cola and Pepsi), perfect competition (cotton producers with no price influence)
   4. Differing amounts of power between buyer and seller (more power from buyer makes lower prices, more power from seller makes prices higher)
G. RURAL TIES
   Important links to Rural America

H. GOVERNMENT INVOLVEMENT
   1. Previous 7 factors make this necessary
   2. Programs to influence price, dictate farm income, protect public health
      (USDA)

II. FOOD PRODUCTION AND MARKETING SYSTEM
   A. Average US consumer spends approx. 8% of their personal consumption on food
      consumed at home (not fast food or restaurants). Japan is 18% and India is 50%.
      (Food is less expensive in the US and we eat out more).
   B. US food production and marketing system is highly efficient. The United States
      includes less than 7% of the world's land, has 5% of the world's population and
      produces 12% of the world's agricultural commodities, 15% of the livestock and
      11% of the world's crops.

III. FARM-FOOD MARKETING BILL – breakdown of the consumer's food dollar
   A. 1999 - 20¢ went to the farmer and 80¢ went to marketing (labor, transportation,
      processing, manufacturing, distribution, advertising, preparation). Marketing
      includes all processes necessary to get the product ready for the consumer.
   B. 1950 - 41¢ went to the farmer – the number has declined due to:
      1. Increases in productivity
      2. Increases in demand for convenient and highly processed food
      3. Increases in food consumed away from the home
      4. Increases in marketing costs (labor, transportation, energy)

IV. FOOD SYSTEM – 3 SECTORS
   A. Input Supply Sector – responsible for providing inputs (products and services)
      for production agriculture (John Deere).
      1. Made of firms that manufacture and distribute all of the inputs that
         make the production agriculture sector operate.
      2. Includes: animal nutrition, seed, machinery & equipment, fertilizer,
         crop protection, credit/banking firms
      3. 3 Areas within Input Supply Sector
         a. Manufacturing – everything it takes to run the farm (John Deere,
            Pfizer Animal Health)
         b. Distribution – getting manufacturing products to the farm.
         c. Services – farm management services, vet care, consulting,
            lending organizations (Farm Credit)
B. Production Agriculture Sector – includes the farms and ranches that produce the crops and livestock products as inputs into the Food Sector. All of these people are customers of the Input Sector.

Farm Demographics
1. Farm is defined as any establishment from which $1,000 or more of agricultural products were sold/would be sold during the year.
2. Today’s US farmer produces enough food and fiber to feed and clothe 129 people (32 of which live outside the US)
3. 90% of farms have income from other, non-farm sources
4. The number of farms is decreasing, while the remaining farms are getting larger in size.
5. 90% of farms are family-owned.

C. Food Sector – food processing, marketing and distribution. (Kellogs, McDonalds)
1. 1999 Food Store sales were $458 billion – this includes supermarkets, small grocery stores, convenience stores. These stores account for 82% of all food sold in retail stores. These stores are extremely competitive and work with low profit margins.
2. Food Service - $399 billion in sales – this includes restaurants (traditional, fast food – fastest growing food sector and institutional). By 2010, 53% of all money spent on food in a household will be on food away from home.
3. Food Wholesaling – merchant wholesalers buy groceries and grocery products from processors and manufacturers and resell to retailers, institutions and other business (Sysco).
4. Food Processing and Manufacturing – take raw ag. commodities and turn them into ingredients for further processing or into final products (meat packers, bakers, cereal companies, brewers). Huge players – IBP, Cargill, Coca-Cola and Frito-Lay.
5. Transportation and Storage Firms – collect, store and transport commodities.
Sample Activity:

Students will be divided into small groups and will develop a Brochure that covers topics from the notes given. Each group should be assigned different topics and then will present their posters to the class the following day.

Topics:
- Seasonal Businesses
- Weather Effects on Crops and Prices
- Variety of Market Conditions
- Input Supply Sector
- Production Agriculture Sector
- Food Sectors

Poster Requirements:
- Title
- Description or definition of topic
- Pros and Cons of topics
- Pictures describing the concepts stated

Common Core Standards to be covered:
History and Social Sciences: 1, 2, 4, 5, 7, 9, 10
## Grading Rubric:

<table>
<thead>
<tr>
<th></th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
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<tbody>
<tr>
<td><strong>Organization</strong></td>
<td><strong>The brochure has excellent formatting and very well organized information.</strong></td>
<td><strong>The brochure has appropriate formatting and well organized information.</strong></td>
<td><strong>The brochure has some organized info with random formatting.</strong></td>
<td><strong>The brochures format and organization of material are confusing to the reader.</strong></td>
</tr>
<tr>
<td><strong>Ideas</strong></td>
<td><strong>The brochure communicates relevant info appropriately and effectively to the intended audience.</strong></td>
<td><strong>The brochure communicates relevant information appropriately to the intended audience</strong></td>
<td><strong>The brochure communicates irrelevant information, or communicates inappropriately to the intended audience</strong></td>
<td><strong>The brochure communicates irrelevant information, and communicates inappropriately to the intended audience.</strong></td>
</tr>
<tr>
<td><strong>Conventions</strong></td>
<td><strong>All of the writing is done in complete sentences</strong></td>
<td><strong>Most of the writing is done in complete sentences</strong></td>
<td><strong>Some of the writing is done in complete sentences</strong></td>
<td><strong>Most of the writing is not done in complete sentences</strong></td>
</tr>
<tr>
<td><strong>Graphics</strong></td>
<td><strong>The graphics go well with the text and there is a good mix of text and graphics</strong></td>
<td><strong>The graphics go well with the text, but there are so many that they distract from the text</strong></td>
<td><strong>The graphics go well with the text but there are too few.</strong></td>
<td><strong>The graphics do not go with the accompanying text or appear to be randomly chosen.</strong></td>
</tr>
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</table>
Sample Assessment:

NAME ____________________________________________

1. Name 4 of the 8 key factors that differentiate food and agribusinesses from other business markets and briefly explain in one sentence.
   1. 
   2. 
   3. 
   4. 

2. What percentage of their personal income does the U.S. consumer spend on food consumed at home? (Circle one)
   A. 4%       B. 5%       C. 7%       D. 8%

3. Fill in the blanks...
   The United States includes _____% of the world’s land, _____% of the world’s population and produces _____% of the world’s agricultural commodities.

4. Name the 3 Sectors in the Food System and in one sentence, tell what they include/are responsible for.
   1. 
   2. 
   3. 

5. What is the Farm-Food Marketing Bill?

6. According to the Farm-Food Marketing Bill, in 1999, how much of every dollar went to the farmer? (Circle one)
   A. 20¢       B. 40¢       C. 60¢       D. 80¢
GOVERNMENT INTERVENTION IN AGRICULTURE

I. Why have government interventions?
   A. Support/protect the ag. industry
   B. Provide food security
   C. Provide for consumer health/safety
   D. Provide for environmental quality in input protection

II. Farm Economic Issues - What are farms concerned with & how does the govern. help?
   A. Problems associated with farms
      1. Output fluctuations from one year to the next. (Due to weather, disease, technological changes.)
      2. Low net farm income. (Due to lack of market power/price takers.)
      3. High cost of inputs.
      4. Asset fixity - refers to the difficulty farmers have in disposing of tractors, plows and silos when downsizing or shutting down. (Little or no alternative use, low resale value.)

   B. Forms of government intervention
      1. Paying farmers not to produce in order to lower supply, increase demand and raise prices.
      2. Establish a price floor through purchasing surplus commodities.
      3. Tariffs (tax on imports) to make imported goods more expensive or quotas that limit imports.
      5. Farm Service Agency (FSA) - part of USDA - gives loans at subsidized rates to farmers as well as crop insurance.

III. Consumer Issues - What are consumers concerned with & how does the government help?
   A. Adequate and cheap food supply.
   B. Nutritious and healthy food supply.
   C. Food Safety - nation's food supply is monitored by:
      1. Food & Drug Admin. - FDA - monitor the safety and wholesomeness of all food and beverage
      2. U.S. Dept. of Ag. - USDA - monitor meat and poultry
      3. Environ. Protection Agency - EPA - regulate pesticides and their use
D. Food Subsidies
   1. Food Stamp Program - low-income food assistance
   2. National School Lunch Program - largest/oldest child-feeding program. Open to all kids at a range of costs depending on their income level. (Now a School Breakfast Program is also offered.)
   3. Special Supplemental Food Program for Women, Infants and Children (WIC) - for low income/nutrition risk. Vouchers for specific foods given for participating retail food stores.

E. Rural Communities
   1. Rural Community Advancement Program - provides federal grants, loans and assistance to meet rural development needs.
   2. Rural Electrification Admin. - makes subsidized loans to rural electric and phone coops. to extend power and phone service to rural areas.

IV. Price and Income Support Mechanisms Given to Farmers by the Federal Government

A. Loan Rate Mechanism - provides a price floor for selected commodities (corn & wheat).
   1. Commodity Credit Corp. (CCC) gives nonrecourse loans to farmers to produce a crop. They sell the crop and repay the loan. If they don't sell their crop, the crop can be used to repay the loan. These loan programs are no longer offered by feds due to too many crop "leftovers" and the high price to store them.

B. Set-Aside Mechanism - requires farmers to idle a fraction of their farm land in exchange for government subsidies. Farmers often set aside their worst land and worked the remainder more intensely. This produced higher yields, raised supply and prices lowered.

C. Target Price Mechanism - established a ceiling/max price the government was willing to support for selected commodities.
   1. Feds set target price and pay the difference between market price and target. If market price was above target price, no payment was made.
   2. These types of programs are still in use today.

E. Conservation Reserve Mechanism - farmers were required to reduce the acreage they had in production in order to reduce erosion and improve water quality.
   1. "Retired" land was to be used for soil-conserving cover crops (grass or trees).
   2. Feds pay a "rental payment" to "rent" the land used for conservation. Still in use today.
F. Only a fraction of crop commodities are subsidized. These are primarily feed and food grain plus cotton and some dairy products. (No fruits, vegetables or livestock are subsidized.)

V. Phasing Out of Supply Management - 1996 Farm Bill a.k.a. Federal Ag. Improvement and Reform Act (FAIR Act)

A. Previous to FAIR Act, farmers received payments reflecting the difference between market and target prices.
B. The FAIR Act eliminated supply management tools designed to stabilize farm prices/incomes.
C. Eliminated disaster payments - farmers to buy their own disaster insurance.
D. Payment rates are made to farmers based on total crop production and total farmers involved. Producers can also grow whatever they want and aren't locked in to one specific crop.
E. FAIR Act produced greater price variability and more price risk for farmers.
F. Ag. became more reliant on the growing world demand for food and fiber products to keep prices up.
G. The FAIR Act expired in 2002 and the new 2002 Farm Bill restored the use of target prices to provide a safety net for farmers under the FAIR Act.

VI. Domestic Demand Expansion Programs - How do we create a demand curve that shifts to the left?

A. Government can institute programs to promote the expansion of demand through school feeding and other nutrition programs.
B. Government can institute programs to subsidize the development of new uses for farm products. (Corn into fuel.)
C. Neither can shift curve very much.

VII. International Issues

A. The adequacy of the World Food Supply - USDA works with land-grant universities and researchers to developing crop yield-enhancing technology. (Hybrid seeds and fertilizers.)
B. Movement towards free trade - NAFTA provided the following gains for the U.S., Mexico and Canada:
   1. Improved allocation of scarce resources and lower prices to consumers and producers.
   2. Promoted economies of scale in manufacturing.
   3. Reduced transaction costs and uncertainty of government policies.
   4. Promoted investment in manufacturing, human resources and technology.
Sample Assessment:

NAME

1. Name 3 reasons why we have government intervention in agriculture.
   1. 
   2. 
   3. 

2. What is "asset fixity" in agriculture?

3. Name 2 consumer issues with the nation's food supply.
   1. 
   2. 

4. Name 1 national food subsidy program.

5. What is the "Set-Aside Mechanism" and why didn't it work?

6. What is the "Conservation Reserve Mechanism"?

7. Name 3 TYPES of agricultural commodities that are NOT subsidized.
   1. 
   2. 
   3. 

8. Name 2 Domestic Demand Expansion Programs?
   1. 
   2. 

9. Which direction (right or left) did the Domestic Demand Expansion Programs hope to shift the demand curve?

10. Name 2 benefits of N.A.F.T.A.
    1. 
    2. 

Extra Credit: