Agriculture Education 3
Grades 10-12

Units of Credit: One Year (Elective)

Prerequisites: Agriculture Education 2

Course Description:
In Agriculture Education 3, students receive instruction and lab experience in computer application in agriculture, agribusiness co-ops and marketing, CAD, CAM, CNC Technology, Range Management, Genetics, Forestry, Parasitology, and oral communication skills in leadership development. This course is designed to focus on career development and address a rigorous application of skills to promote career selection and growth.

Topics:
- Agribusiness
- Range Management
- Genetics
- CAD CAM CNC
- Forestry
- Parasitology
- Oral Communication & Leadership Development = FFA

NOTE: Throughout this document, learning target types are identified as knowledge ("K"), reasoning ("R"), skill ("S"), or product ("P").

STANDARD 1: Students experience various career opportunities and assess personal career pathways.

Benchmark 1:
Explore and identify personal interests, aptitudes, and abilities and develop strategies to achieve tentative career goals.

Learning Targets (*Type*):
1. I can use Montana Career Information Systems (MCIS) and/or other systems or web resources to investigate and evaluate my personal interests, aptitudes and abilities. *(S)*
2. I can formulate tentative career goals. *(R)*
3. I can evaluate approaches for meeting my goals. *(R)*

Benchmark 2:
Utilize local resources to research career plans.

Learning Targets (*Type*):
1. I can identify local resources to develop career plans. *(K)*
2. I can contact my school career counselor or teacher to pursue career pathways. *(S)*

Benchmark 3:
Recognize the interrelationships of family, community, career, and leisure roles.

Learning Targets (*Type*):

1. I can describe the importance of balance between family and community in regards to career and leisure activities. *(K)*
2. I can compare and contrast the needs of career and leisure activities and how they relate to and/or affect family and community. *(R)*

STANDARD 2: Students demonstrate an understanding and apply principles of Resource Management (i.e., financial, time, personal management)

Benchmark 1:

Prepare a budget and keep financial records.

Learning Targets (*Type*):

1. I can research and report cost of materials and time. *(R,S)*
2. I can document financial inputs and outputs. *(S)*
3. I can identify the necessity to maintain accurate financial records. *(K)*
4. I can stay within a fixed budget. *(S,P)*

Benchmark 2:

Prioritize, allocate time, prepare and follow schedules to complete a project.

Learning Targets (*Type*):

1. I can estimate the required time to complete a project. *(R)*
2. I can prioritize resources, equipment and tasks. *(R)*
3. I can reflect upon completion. *(K)*

Benchmark 3:

Apply appropriate time to task.

Learning Targets (*Type*):

1. I can implement a time schedule for task completion. *(S)*

Benchmark 4:

Use physical resources wisely to accomplish a goal.

Learning Targets (*Type*):

1. I can identify the resources necessary to accomplish the task. *(K)*
2. I can maintain the tools of the trade. *(S)*
3. I can maximize the use of my resources. *(S)*

STANDARD 3: Students acquire and utilize personal and leadership skills to become successful, productive citizens.

Benchmark 1:

Demonstrate active leadership skills by participation in group activities and projects.

Learning Targets (*Type*):

1. I can investigate various leadership styles. *(R)*
2. I can apply leadership styles in group activities and projects. *(R)*

Benchmark 2:

Demonstrate positive personal and work ethics.

Learning Targets (*Type*):

1. I can show up for class and work on time. *(S)*
2. I can develop personal and work related goals. *(K,P)*
3. I can describe ethical behavior in the workplace. *(K)*

Benchmark 3:

Demonstrate skills to be a productive citizen.

Learning Targets (*Type*):

1. I can develop professional relationships with community members. *(S)*
2. I can contribute to my community in a positive manner. *(S,P)*

Benchmark 4:

Apply self-esteem building practices.

Learning Targets (*Type*):

1. I can define and provide evidence of my strengths in my career interest areas. *(K,S)*
2. I can persevere through set backs and stay focused on my goals. *(S)*

Benchmark 5:

Demonstrate appreciation for diverse perspective needs and characteristics.

Learning Targets (*Type*):

1. I can develop a working relationship with diverse populations. *(K,S)*
2. I can demonstrate communication skills that contribute to positive relationships. *(S)*
3. I can work to understand diverse points of view. *(R)*

Benchmark 6:

Practice several methods of effective communication.

Learning Targets (*Type*):

1. I can demonstrate good listening skills. *(S)*
2. I can effectively communicate verbally through collaborative projects. *(S,P)*
3. I can develop quality written professional communications. *(P)*

STANDARD 4: Students acquire and demonstrate current technical skills leading to an occupation.

Benchmark 1:

Practice technical skills and procedures required for an occupation.

Learning Targets (*Type*):

1. I can demonstrate record keeping skills including the production of a balance sheet, income statement, and cash flow statement. *(K,S)*
2. I can demonstrate knowledge of range management with respects to stocking rates (AUM), grazing systems and land classification. *(K,S)*
3. I can run a CNC (computerized numerical coding) utilizing the parts geometry that is created. *(K,S)*
4. I can describe the life cycle of common parasites. *(K)*
5. I can describe strategies to control parasites in livestock. *(K)*
6. I can measure and calculate board feet. *(K,S)*
7. I can identify proper forestry management strategies. *(K,R)*
8. I can explain how genotype and phenotype are different. *(K,R)*
9. I can speak publicly and develop leadership skills utilized in all professions. *(K,S)*

Benchmark 2:

Practice safe and appropriate use of technology.

Learning Targets (*Type*):

1. I can generate a CAD computer generated design program. *(K,S)*

Benchmark 3:

Select the appropriate tools, equipment, and procedures for the task.

Learning Targets (*Type*):

1. I can generate a CAD (computer aided design) program. *(K,S)*

2. I can select a CAM (computer aid machining) program for the appropriate task. *(K)*
3. I can generate and interpret a punnet square. *(R,S,P)*
4. I can distinguish between homozygous and heterozygous genes. *(K)*
5. I can select correct breeding programs to optimize desired results. *(K,R,S)*

Benchmark 4:

Manage and maintain technological tools and follow troubleshooting protocol.

Learning Targets (*Type*):

1. I can select a CAM computer aided machine. *(K,R)*

Benchmark 5:

Apply technical information to a variety of sources.

Learning Targets (*Type*):

1. I can practice basic business math including depreciation and return on investment. *(K,S)*
2. I can use basic commodity marking skills to include hedging, speculating, and cash markets. *(K,S)*

STANDARD 5: Students know and demonstrate the requirements of the workplace through authentic application.

Benchmark 1:

Practice and demonstrate academic and technical skills to a workplace setting.

Learning Targets (*Type*):

1. I can practice and demonstrate my technical workplace skills in my school lab. *(S)*
2. I can research, write and present on the technical content utilizing academic skills found in workplace settings. *(R,S.P)*

Benchmark 2:

Apply the concepts of entrepreneurship.

Learning Targets (*Type*):

1. I can explain the concepts of entrepreneurship. *(K)*
2. I can demonstrate the concepts of entrepreneurship through a unique project. *(R,S)*
3. I can present my unique project to an authentic audience. *(S,P)*

Benchmark 3:

Identify possible outcomes and consequences of decisions.

Learning Targets (*Type*):

1. I can identify possible consequences of carelessness and horseplay. *(K)*
2. I can explain potential outcomes of not following directions, (i.e. safety, guidelines, rubrics). *(R)*

Benchmark 4:

Use acceptable industry standard equipment in a school setting.

Learning Targets (*Type*):

1. I can successfully use acceptable industry standard equipment to produce an authentic product within budget constraints. *(S,R,P)*