

COURSE TITLE**Agriscience****INSTRUCTOR**

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CLASS MEETING TIMES

<u>2020-2019 Class Schedule</u>	<u>8/19/2020– 5/29/2021</u>
Monday – Friday	8:00 am – 10:30 am OR
Monday – Friday	12:00 pm – 2:30 pm

TEXTBOOKS

Veterinary Assisting: Fundamentals and Applications
Delmar Cengage Learning, 2011
ISBN -13 978-1-43545387-6

The Science of Agriculture
Delmar Cengage Learning, 2012
ISBN-13: 978-1-4390-5776-1

OTHER RESOURCES

Animal Care Training DVD Set (ACT)
Animal Care Technologies, Denton, TX

ICEV online learning
CEV Multimedia, Lubbock, TX

REQUIRED MATERIALS

Black pants or black knee length skirt, white button up shirt, black closed toed shoes and black socks.

COURSE DESCRIPTION

Agriscience is a program based around the agricultural and natural resources industries. This program includes instruction in animal and plant anatomy, genetics, disease prevention, food safety, environmental science and agribusiness. This course has a focus on the general production of agriculture from farm to table, covering all the stages in between. Students will raise animals for meat during this course and going to the processing plant will be required field trips. When students enroll in agriscience, they automatically become a member of The FFA Organization, a nationwide organization that encourages students to become involved in agriculture while teaching them leadership and accountability.

ACADEMIC CREDITS

Students who take 1 course can earn credits for the fourth required math credit, a third credit of science, a visual performing and applied arts credit and/or may substitute this CTE class in place of a second year of foreign language. Local district policy and other circumstances may limit or expand the use of CTE classes in place of other credit requirements.

POSTSECONDARY CONNECTIONS

The MACC offers students with a B or better both semesters the opportunity to earn articulated credits at several community colleges and universities around the state. Agriscience offers articulated credits at: Montcalm Community College for up to four credits, Davenport for up to 24 credits. Michigan State University offers six credits if a student has a C or better and completes all the requirements and receives the State FFA degree. Additional information can be found on our website or by talking with the instructor.

WORK-BASED LEARNING OPPORTUNITIES

Students will be required to complete 40 hours per year, in a supervised agricultural experience outside of the classroom in the area of their choosing. To return for a second year they must also complete 75 hours or more during the summer before they return. This is necessary to complete the state degree requirements which requires \$2000 or 600 plus hours of unpaid work experience. All of this is done outside of the normal school day. It also requires 25 hours of community service.

SAFETY TRAINING

Safety training for animal handling and basic greenhouse production

STUDENT LEADERSHIP OPPORTUNITIES

FFA

COURSE OBJECTIVES

Lab Safety:

- Apply safety/health precautions to participation in Agriscience and natural resource projects
- Practice different methods of animal restraint and know when to use them
- Explain the importance of safety when working and playing with animals
- Practice the different methods of sanitation and know when to use them
- Explain general techniques for avoiding infection and the spread of disease between humans and animals
- Explain procedures for the safe handling, use and storage of pesticides
- Read an MSDS and locate important safety information
- Select appropriate personal protective equipment as needed for a safe workplace/jobsite
- Demonstrate application of rules and laws designed to promote safety and health

Career Readiness and Leadership

- Understand the aims, purposes, history, and structure of the FFA student organization, and know the opportunities it makes available
- Employ teamwork skills to achieve collective goals and use team members' talents effectively.
- Employ leadership skills to accomplish organizational goals and objectives
- Identify and demonstrate positive work behaviors and personal qualities needed to be employable
- Prepare a résumé
- Maintain a career portfolio to document knowledge, skills and experience in a career field
- Identify, write & monitor workplace performance goals to guide progress in assigned areas of responsibility and accountability
- Conduct technical research to gather information necessary for decision-making
- Read appropriate written material to stay abreast of current issues impacting AFNR management
- Manage and actively engage in a career-related, supervised agricultural experience (SAE)
- Develop and deliver formal and informal presentations using appropriate media to engage and inform audiences
- Evaluate and use information resources to accomplish specific occupational tasks

Domestic Animal Production

- Describe the role of science in animal production
- List the names of common animals based on sex classification and age
- Identify trends in the animal industry
- Identify common breeds of animals on sight
- Explain the role of genetics in animal production and biotechnology
- Describe facility and equipment needs with food animal production
- Understand methods of animal identification
- Explain the importance of food animal production

Animal Health & Nutrition

- Begin to learn the terminology of anatomy in order to understand the description of body parts and their relative positions to one another
- Recognize and use common Greek and Latin prefixes, suffixes, and roots
- Describe the characteristics of a healthy animal and the signs and methods used to assess an unhealthy animal
- Properly fill and read a syringe
- Obtain fecal sample and perform fecal analysis test
- Determine and record temperature, pulse, respiration and weight of patient
- Identify common surgical instruments
- Describe the general clinical signs of an animal with a parasite infestation
- Diagram the life cycle of internal and external major parasites
- Explain disease prevention
- Classify diseases
- Contrast feed requirements with structure of digestive system
- List nutritional requirements and feeding practices of major animal breeds

Animal Anatomy and Physiology

- Identify, understand and relate the basic structures and functions of the cell
- Describe the function of the Digestive system
- Describe the function of the Reproductive system
- Describe the function of the Cardiovascular system
- Describe the function of the Immune system
- Describe the function of the Respiratory system
- Describe the function of Skeletomuscular system

Environmental Service Systems

- Describe sustainable agriculture practices and compare the ecological effects of traditional agricultural practices with those of sustainable agriculture
- Plan the production of plants or plant products that incorporate sustainable practices
- Calculate the economic, environmental, and human health costs and benefits of incorporating sustainable plant production practices
- Demonstrate evidence of interest and concern for natural resource stewardship and ethics

Plant Anatomy and Physiology

- List the scientific names and key characteristics of agriculturally important plants
- Explain requirements necessary for photosynthesis to occur

- Identify the different types of flowers and flower forms
- Identify the components of plant stems
- Describe the types and components of seeds and fruits
- Identify root tissues and explain the pathway of water and nutrients into and through the root tissues

Plant Culture and Propagation

- Determine the optimal air, temperature and water conditions for plant growth
- Assess the stage of growth to determine crop maturity or salability and demonstrate proper harvesting techniques
- Prepare a schedule for production that accommodates environmental setting (natural, greenhouse, or modified)
- Prepare plants and plant products for distribution
- Demonstrate seed-sowing techniques that result in favorable germination, viability, and vigor
- Demonstrate plant propagation techniques
- Identify major local weeds, insect pests and infectious and noninfectious plant diseases
- Diagram the life cycles of major plant pests and diseases

Soils and Plant Nutrition

- Explain the various types and components of growing media
- Describe the physical characteristics of growing media and explain the influence on plant growth
- Determine the biological functions of microorganisms of soil/media
- Determine land use capability
- Identify function of plant nutrients in plants
- Describe nutrient deficiency symptoms and recognize environmental causes of nutrient deficiencies
- Calculate the amount of fertilizer to be applied and calibrate equipment to apply the prescribed amount
- Develop and implement a fertilization plan for specific plants or crops

Natural Resource Systems

- Apply Knowledge of natural resource components to the management of natural resource systems
- Apply scientific principles of an ecosystem

GRADING CRITERIA

Grades will be based on the following categories: 50% assessments, 20% SAE, 20% Classroom participation (homework, discussions, notebook, ID books) 10% lab work.

Lab skills or practical work may include, but is not limited to: lab task sheets, animal and plant care, contests and skill tests.

Theory or classroom work may include, but is not limited to: homework, assignments, quizzes, test and classroom projects.

GRADING SCALE

A	93 – 100%	C	73 – 76%
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A-	90 – 92%	C-	70 – 72%
B+	87 – 89%	D+	67 – 69%
B	83 – 86%	D	63 – 66%
B-	80 – 82%	D-	60 – 62%
C+	77 – 79%	F	59% and below

ASSIGNMENTS

Compete in a FFA leadership contest, a Career Development event, compete in FFA Broiler and Rabbit Project and help to raise the animals during and after school. Work in the greenhouse to plant, propagate and care for and sell plants. Complete animal and plant identification digital ID books, keep a complete notebook and folder of classwork, create resume and cover letter, maintain Friday farm log book. Other major projects to be assigned over the course include breed project and environmental project.

CRITERIA FOR CONSIDERATION FOR 2ND YEAR

- Must maintain a B or better in both semesters of year 1
- Complete 40 hours in SAE by June, 2020
- Complete at least seventy-five hours in SAE over the summer (on track to complete the 600 hours or \$2000 earned, or a combination of both, by December to qualify for state degree and to earn MSU credit)
- Complete and videotape a ten-minute lesson, then present to first year students, in the first two weeks of the new school year

As a second year student completing advanced coursework, you will be required to:

- Apply for all eligible state FFA awards
- Compete in a leadership contest, spring skills contest and participate in both poultry and rabbit contest
- Complete 25 hours of community service (this can include time from first year)
- Take an active part in leading class activities
- Have access to a car and the ability to drive will help when extra learning opportunities happen

ACADEMIC INTEGRITY

All students are expected to be honest in their studies. Dishonesty in completing assignments, examinations or other academic endeavors is considered an extremely serious violation of the rights of others and is subject to disciplinary action, ranging from a zero on an assignment up to a failing grade in the course. Plagiarism, the failure to give credit for ideas, thoughts or material taken from another, is cheating and will not be tolerated. Plagiarism includes using someone else's exact words, or even their ideas but not their exact words. It is a good rule of thumb that if you did not know the information before you started the assignment, you must cite your source.

ADA STATEMENT

It is the policy of Montcalm Area Intermediate School District that no person on the basis of race, color, religion, national origin or ancestry, age, gender, height, weight, marital status, or disability shall be subjected to discrimination in any program, service, activity, or in employment for which it is responsible. Inquiries related to discrimination should be directed to: MAISD Superintendent, P.O. Box 367, 621 New Street, Stanton, MI 48888 (989-831-5261).