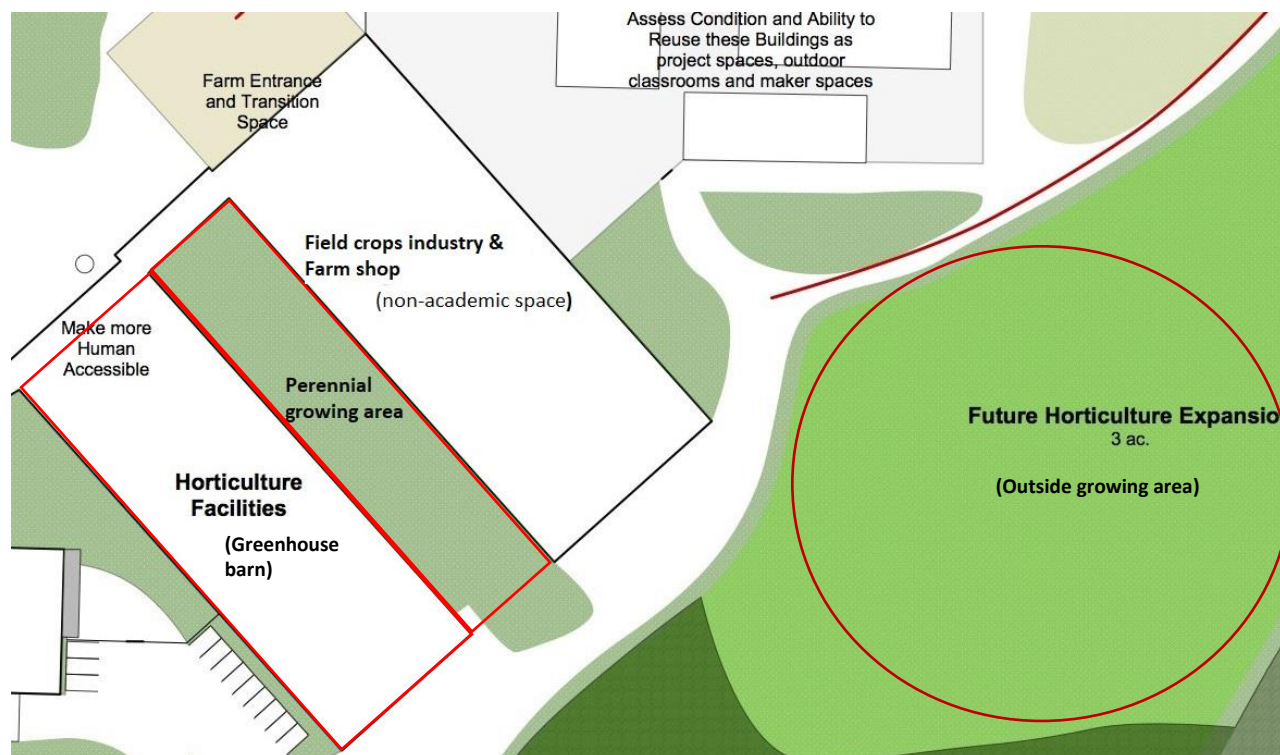


# Curriculum at the Agriculture Education Center

## SUSTAINABLE HORTICULTURE MAJORS

Spaces used:

- Horticulture Facilities (300 x 100 x 14' 5-gutter-connect greenhouse)
- Perennial growing area (100 x 60 sq. ft. outside space)
- Horticulture Expansion area (3 acres)



Curriculum:

Students will learn in an **environmentally responsible manner** how to:

- propagate plants using a variety of methods (seed, cuttings, grafting, etc.)
  - heritage varieties will be preferred in order to maintain those germlines
- manage pests and diseases
- design, install, and operate various types of irrigation systems (drip, mist, spray, etc)
- provide nutrients tailored to the specific plant needs
- apply cultivation practices that enhance production
- calculate the financial aspects of their plant production

All students regardless of emphasis will be assigned a space(s) inside the Greenhouse barn such as raised beds and tables on which to grow on a rotating basis each semester different types of:

- fruits, vegetables, and herbs (**Agribusiness, International Agriculture Development**) or
- ornamental annual and bedding plants (**Environmental Landscape Design**).

A section of the Greenhouse barn that will be heated in winter for year-around usage. The International Agriculture Development students will utilize this space to learn the production of tropical plants.

In the Perennial growing area, students will learn how to grow woody-type plants and other perennials in containers. Some of these may be used on-campus while others may be available to the public such as seedlings from the seed cones of the Norway spruce trees that the founders of Emmanuel Missionary College planted along the main road through campus in 1901-02.



In the Horticulture expansion area during the growing season in Michigan, students will intern in larger scale annual fruit and vegetable production. This will also include perennials such as bramble and shrub berries and tree fruit.

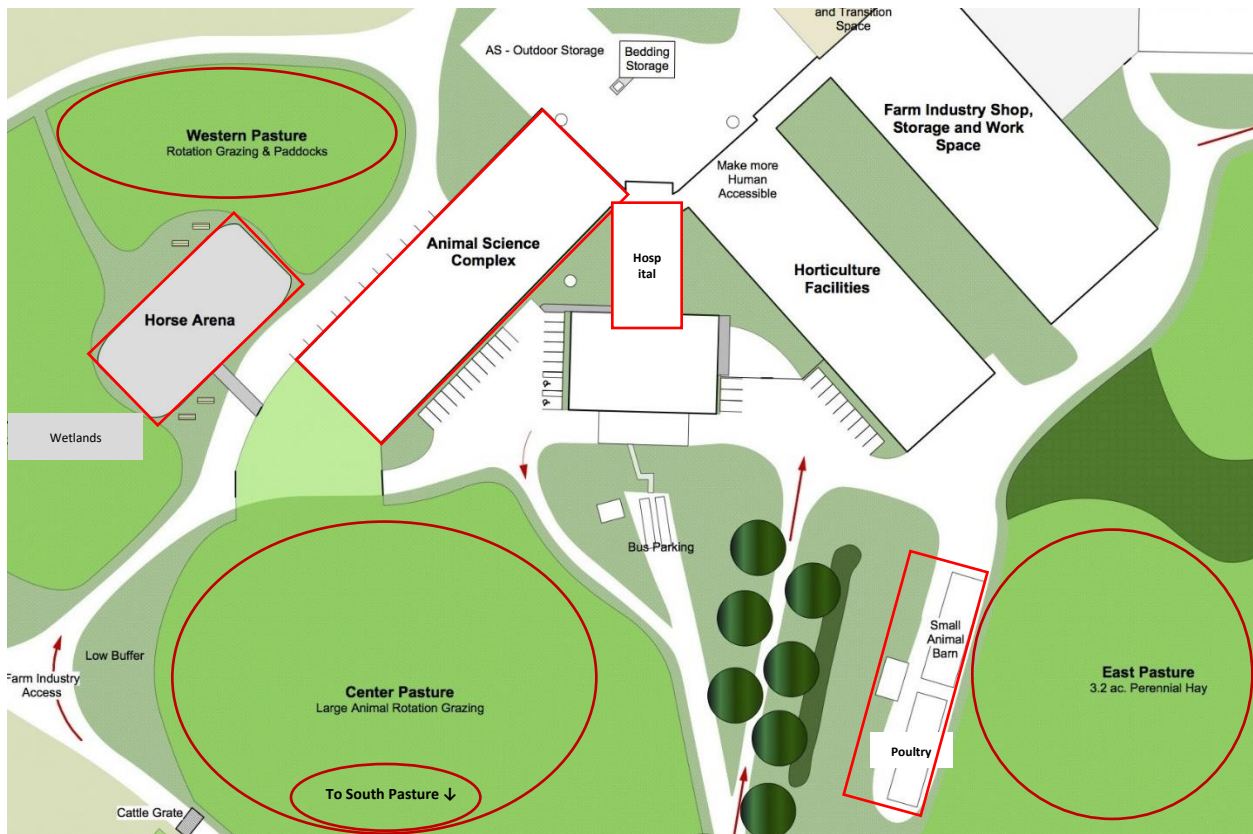




## ANIMAL SCIENCE MAJORS

Spaces used:

- Animal Science Complex for large animals (30 x 100 x 14' barn)
- Small Animal and Poultry barns (2 100 x 25' coverall-type barns)
- Pastures (3 pastures for rotational grazing totaling 18.5 acres)
- Paddock (1.2 acres)
- Horse arena (1200 sq ft.)
- Hospital and heated lab space (5600 sq ft.)
- Aquaculture pond – not shown but on the north side of facility (3.2 acres)



Curriculum:

Students will learn in an **environmentally responsible manner** how to:

- promote health and prevent disease in animals
- provide proper nutrition to animals during every stage of their lives
- monitor animal development and growth
- manage animals on rotational pasture grazing systems
- develop their animal's responses to various types of behavioral training
- calculate the financial aspects of their assigned animals' care

All **Animal Science** students regardless of emphasis (**non-pre-vet or pre-vet**) will be assigned a different animal species a rotating basis each semester:

- Freshmen: poultry – chickens, turkeys, and/or ducks for entire year
  - Brood day-old birds through maturity and egg production at 5-6 months old
  - Preference will be given to heritage breeds of birds
- Sophomores: Calf in fall semester
  - Bottle fed until weaning and then monitor for the next two years
    - Will also train calf to lead and tie during fall semester
  - Rabbits or minipigs during spring semester
    - Managing kindling, farrowing
- Juniors: Sheep and goats – one species each semester
  - Manage lambing or kidding in spring
- Seniors: Horses and llamas – one species each semester
  - Work with and ground train horses and llamas of various ages including rescued animals



### **ALL STUDENTS IN BOTH MAJORS**

- At the beginning of each semester, all students will receive a group short-course about the plants or animals they will be raising and caring for that term.
- Each day they will record what they did with the plants or animals and calculate costs.
- During the course of the semester, there will be one to two group meetings to discuss how the projects are going and share problem-solving strategies.
- At the end of each semester, they will submit their records for that term for their grade in the course, *AGRI 235 Sustainable Agriculture Techniques*.
- These experiences will be an invaluable addition to the strong science and design knowledge the students are gaining in their coursework.
  - They will also have exceptional content for their portfolios which will prepare them well for acceptance into graduate school or to increase their employment opportunities after graduation.