

**Develop an Undergraduate Major Committee
Working Retreat
24 May 2018
Mugs Underground Lounge, Fort Collins, CO**

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Agenda

- Revise Student Learning Outcomes
- Clarify mission of major
- Begin to draft curriculum

We addressed these tasks in this order, but the notes that follow begin with the committee's final outcomes, the draft name and concentrations for the major.

DRAFT major name – Sustainable Biology

- **DRAFT** Concentrations in:
 - Ecologically-based pest management
 - Includes resistance to pesticides
 - Food Security
 - Sustainable Agriculture
 - Natural Systems Ecology
 - Molecular Plant-Microbe Interactions
 - Self-Designed

Mission of the Major

To understand the biology and ecology of pests and beneficial species

Desired Features of the Major

Students want flexibility and to keep their options open

- Minimum credits to allow students to pursue additional interests and not close doors by choosing this major
- Self-designed concentration to allow flexibility

Underlying Assumptions about the Major

- The major will train students broadly, not in specific areas such as entomology, plant pathology, or weed science.
- This broad training will provide the foundation for graduate or workplace training.
- Methods taught and information conveyed will be up-to-date and cutting edge
- *Diverse groups and audiences include, but are not limited to, persons of different ages, educational, cultural, and experiential backgrounds, races, ethnicities, and sexual orientations.
- ** Sustainable means considering social, economic and biophysical aspects

Revise Student Learning Outcomes (SLOs)

Technical Competencies

Detailed SLOs

Students will:

- Be able to identify key pests and beneficial species in agricultural, horticultural, and natural systems through laboratory and field methods
- Explain the biology and ecology of pests and beneficial species
- Explain the benefits and risks of management practices in agricultural, horticultural, and natural systems
- Implement cost effective, socially acceptable, and environmentally sound pest management solutions

Single SLO

Integrate skills and knowledge to solve problems related **to pests and beneficial organisms in agricultural, horticultural, and natural system**

Agricultural Literacy

Detailed SLOs

- Explain and assess pest management policy, including regulatory frameworks
- Demonstrate knowledge of the important participants in agriculture and natural resource management
- Describe the similarities and differences among management of biological problems in agricultural, horticultural, and rangeland settings
- Develop coherent, objective, balanced arguments regarding contemporary problems in agricultural, horticultural, and natural systems

Single SLO

Formulate coherent, objective, balanced arguments regarding management of biological problems in agricultural, horticultural, and natural systems

Critical Thinking

Detailed SLOs

- Demonstrate ability to acquire knowledge about agricultural, horticultural, and natural systems and identify gaps and critical problems
- Integrate knowledge from across the curriculum
- Analyze qualitative and quantitative information and derive conclusions
- Synthesize knowledge to create novel ideas and solutions to complex problems

Single SLO

Describe, assess, analyze, and synthesize knowledge from across the curriculum to create solutions for pests and beneficial species in agricultural, horticultural, and natural systems.

Leadership

Detailed SLOs

- Function effectively within diverse teams to solve complex problems and achieve desired management outcomes in agricultural, horticultural, and natural systems
- Work to create and facilitate inclusive and diverse teams
- Promote and practice inclusion everywhere

Single SLO

Promote and practice inclusion to form effective teams that solve complex problems in agricultural, horticultural, and natural systems

Communication

Detailed SLOs

- **Effectively communicate with broad and diverse* audiences including peers, stakeholders, and the public.**
- **Demonstrate the ability to effectively engage stakeholders to identify management needs**
- **Provide information related to sustainable** management in agricultural, horticultural and natural systems**
- **Excel in written and verbal communication of scientific results and analyses to diverse audiences***

Single SLO

Communicate effectively with broad and diverse audiences regarding sustainable management in agricultural, horticultural and natural systems

Next Steps

- Create a list of faculty doing research in each of the concentration areas
- Tamla will work over the summer to develop draft curricula for the major and the concentrations using the resources gathered for this retreat. Target completion date is **August 1**. BSPM Faculty retreat is **August 15**.
- DUMC will meet in August before the department retreat to review the draft curricula and prepare for the retreat