NC STATE UNIVERSITY
College of Agriculture & Life Sciences

Building Programs of Study in Agriculture and Life Sciences that are Responsive to Students, Employers and Society

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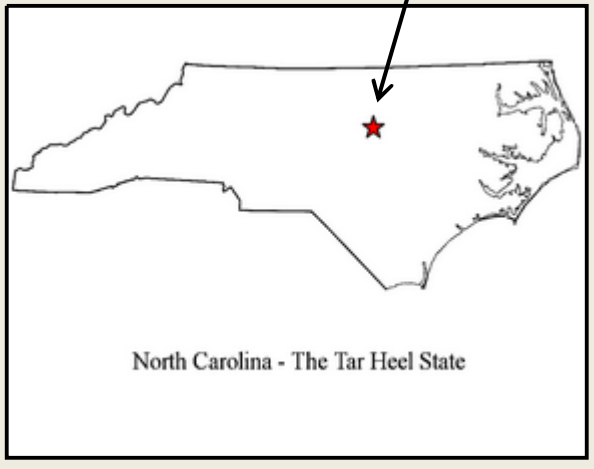
Raleigh
North Carolina - The Tar Heel State


UNITED STATES of AMERICA
Arctic Ocean
Greenland (Denmark)
ARCTIC CIRCLE
Alaska
Canada
NORTH AMERICA
North Carolina
Atlantic Ocean
Pacific Ocean
Bermuda (UK)
Gulf of Mexico
TROPIC OF CANCER
23°5'N
Hawaii
Mexico
CARIBBEAN
Caribbean Sea
1300 mi
1300 km
CENTRAL AMERICA
SOUTH AMERICA
EQUATOR
0°
Pacific Ocean
©GraphicMaps.com
90°W

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North Carolina State University

- Located in Raleigh
- 10 colleges
- Bachelor's degrees in 113 fields
- Master's in 163 fields
- PhDs in 61 fields
- Doctor of Veterinary Medicine

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North Carolina State University

Colleges

- Agriculture and Life Sciences
- Design
- Education
- Engineering
- Humanities and Social Sciences
- Management
- Natural Resources
- Physical and Mathematical Sciences
- Textiles
- Veterinary Medicine

College of Agriculture and Life Sciences

- 20 Academic Departments
- Traditional Agriculture
  - Animal Science
  - Horticulture
  - Ag Business
- Life Sciences
  - Biology
  - Biochemistry
  - Genetics
- Teaching, Research, Extension

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Topics for Consideration

- Agriculture curriculum must address current and future issues
- The study of agriculture requires a systems approach
- Students must obtain critical thinking, collaborative learning, and communication skills
- Elements of a successful program of study in agriculture

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Agriculture Curriculum Must Address Current and Future Issues

- Increased pressure on the global food supply
- Shift from fossil fuels to a bio-economy
- Global climate change – relationship with food production, human health and animal health
- Conservation of natural resources

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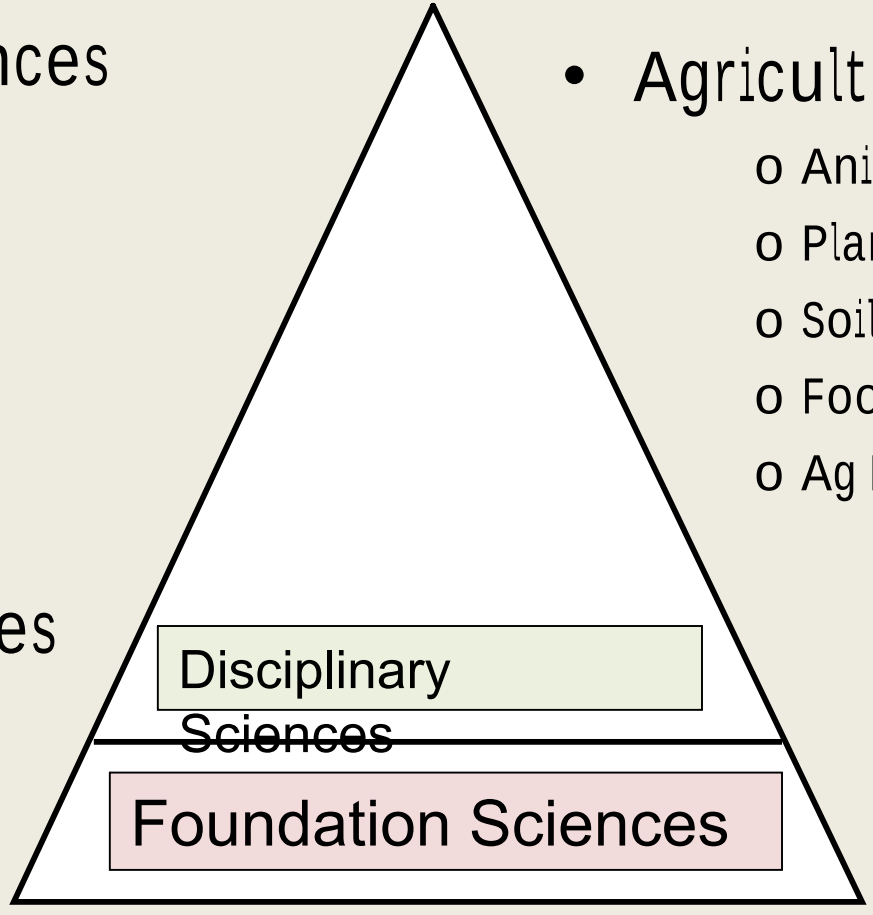
The Study of Agriculture Requires a Systems Approach

- Natural Sciences
  - Biology
  - Chemistry
  - Physics
  - Mathematics
  - Logic
  - Statistics
- Social Sciences
  - Economics
  - Sociology



- Agricultural Sciences
  - Animal Science
  - Plant Science
  - Soil Science
  - Food Science
  - Ag Economics

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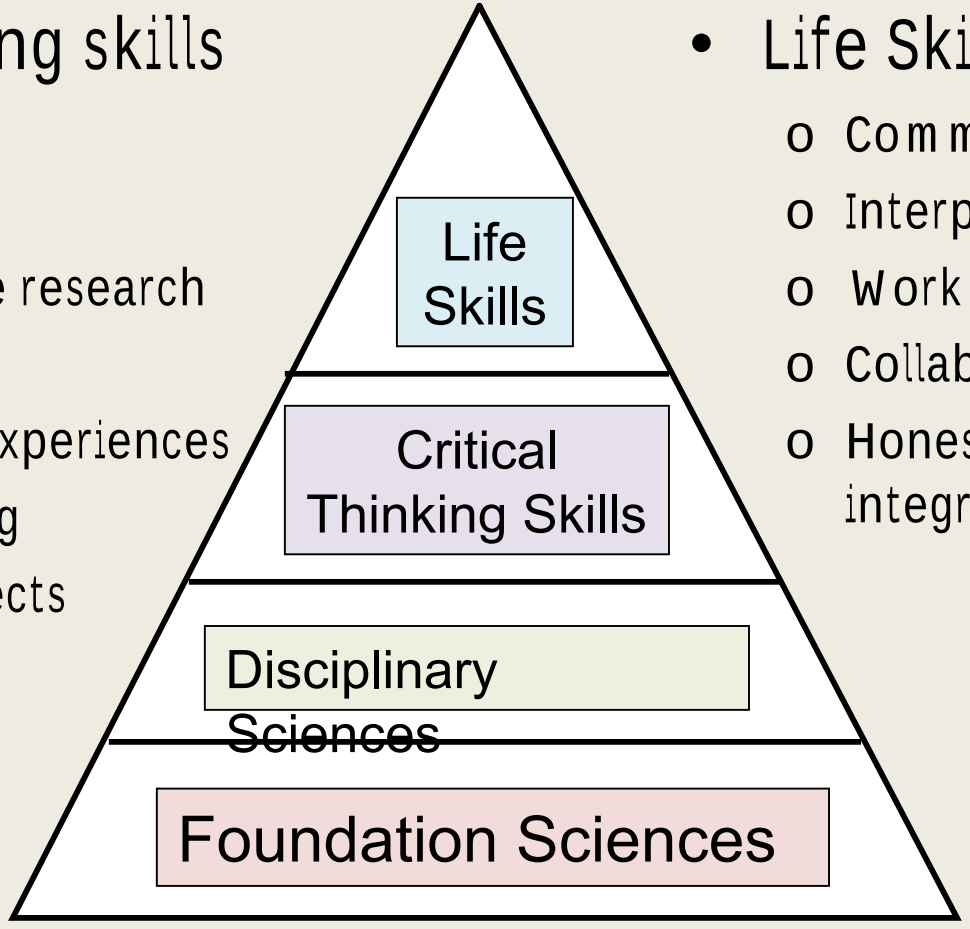
Students Must Obtain Critical Thinking, Collaborative Learning, and Communication Skills

- Critical thinking skills
  - Laboratories
  - Case studies
  - Undergraduate research
  - Internships
  - International experiences
  - Service learning
  - Capstone projects



- Life Skills
  - Communication
  - Interpersonal
  - Work ethic
  - Collaborative
  - Honest, with high integrity

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Elements of a Successful Program of Study in Agriculture

- Scientific and technical competency
- Nimble
- Responsive to agriculture business & industry
- Includes:
  - Program objectives
  - Student learning outcomes
  - Direct assessment of program objectives and student learning outcomes

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Elements of a Successful Program of Study in Agriculture

- Scientific and technical competency
- Nimble
  - Emergence of new areas of study (Biomaterials, Agroecology, Bioinformatics/Agroinformatics, Genomics, etc.)
  - Rapid changes in traditional disciplinary subjects
  - Global perspective

Elements of a Successful Program of Study in Agriculture

- Scientific and technical competency
- Nimble
- Responsive to agriculture business & industry
  - Solve problems (higher order thinking skills)
  - Communication and interpersonal skills
  - Work in teams (collaborative)
  - Technical competence

Elements of a Successful Program of Study in Agriculture

- Scientific and technical competency
- Nimble
- Responsive to agriculture business & industry
- Includes:
  - Program objectives
  - Student learning outcomes
    - Relevant to higher education and agriculture business & industry

Program Objectives

- Develop technical knowledge
- Comprehend local, national, and international issues and problems
- Apply critical thinking, existing technology & practical approaches to solve problems
- Work in teams
- Communicate effectively
- Appreciate the need for life-long education

Learning Outcomes

- Identify & synthesize knowledge in discipline to solve technical problems
- Address agricultural issues from a technical viewpoint
- Define, analyze and apply viable solutions to technical problems
- Work effectively in teams
- Prepare effective written materials
- Deliver effective oral presentations
- Gather appropriate information from on-line and vocational resources

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Elements of a Successful Program of Study in Agriculture

- Scientific and technical competency
- Nimble
- Responsive to agriculture business & industry
- Includes:
  - Program objectives
  - Student learning outcomes
  - Direct assessment of program objectives and student learning outcomes
    - Review curriculum and course content
    - Academic performance of students
    - Student placement
    - Employer satisfaction
    - Alumni success

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Reference Material