Establishing an AG*IDEA Degree Program in Soil, Water, and Environmental Sciences

John Havlin
Mark Coyne
Wes Wood

Michael Mullen
David Radcliffe
Tom Thompson

Ed McCoy

June 23-25, 2010
NACTA
AG*IDEA
Agriculture Interactive Distance Education Alliance
(www.agidea.org)

Kenneth L. Esbenshade (Chair)
AG*IDEA Board of Directors
Assoc. Dean / Director - Academic Programs
College of Agriculture and Life Sciences
NC State University
Great Plains IDEA

A Model for National Collaboration

- Established 1999
- 11 Institutions
- 8 degree programs - Family & Consumer Sciences
Great Plains IDEA Model

1. Cooperating institutions develop curriculum

2. Curriculum approved at each participating institution

3. Student admitted at “home” institution

4. Student takes courses at “teaching” institution

5. Student awarded degree from “home” institution

6. Student pays “Common Price” for all courses
Common Price = Tuition + Fees

2010-11 Fiscal Year:
- $445 / graduate CR
- $330 / undergraduate CR

Funding Model

- Home Institution: 12.5%
- Alliance: 12.5%
- Teaching Institution: 75%
AG*IDEA - Brief History

- **USDA–HECG (2006)** → Southern region DE consortium
  - Univ. of Georgia: Jean Bertrand
  - NC State Univ.: John Havlin
  - Auburn Univ.: William Hardy

- **Concurrently (2006)** → Mid-west DE consortium
  - Univ. of Missouri
  - Iowa State Univ.
  - Kansas State Univ.
  - Univ. of Nebraska.

- **Formal discussions (2007-08)** → both groups
  → with GP IDEA

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GREAT PLAINS IDEA
Interactive Distance Education Alliance
Great Plains IDEA Structure

Great Plains IDEA Cabinet

- Human Sciences IDEA
- AG*IDEA
- Eng*IDEA
  - Ed*IDEA
  - Bus*IDEA

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Great Plains IDEA
Interactive Distance Education Alliance
## Current AG*IDEA Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Education</td>
<td>GR certificates</td>
</tr>
<tr>
<td>Agriculture Mechanization</td>
<td>UG/GR courses</td>
</tr>
<tr>
<td>Food Safety and Defense</td>
<td>GR certificate</td>
</tr>
<tr>
<td>Grasslands Management</td>
<td>GR certificate</td>
</tr>
<tr>
<td>Horticulture</td>
<td>GR certificate</td>
</tr>
<tr>
<td>Swine Science</td>
<td>UG certificate</td>
</tr>
</tbody>
</table>
AG*IDEA Programs

(in process)

- Agricultural Communications
- Agricultural and Environmental Law
- Animal Breeding
- Biobased Products and Bioenergy
- Poultry Science
- Soil, Water and Environmental Science (SWES)

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Great Plains IDEA
Interactive Distance Education Alliance
# Soil, Water, & Environmental Sciences

## Program Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>John Havlin (Chair)</td>
<td>NC State University</td>
</tr>
<tr>
<td>David Radcliffe</td>
<td>Univ. of Georgia</td>
</tr>
<tr>
<td>Wes Wood, Dennis Shannon</td>
<td>Auburn University</td>
</tr>
<tr>
<td>Thomas Thompson</td>
<td>Texas Tech Univ.</td>
</tr>
<tr>
<td>Ed McCoy, Jerry Bigham</td>
<td>Ohio State Univ.</td>
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<tr>
<td>Yuji Arai</td>
<td>Clemson University</td>
</tr>
<tr>
<td>Mark Coyne</td>
<td>Univ. of Kentucky</td>
</tr>
<tr>
<td>Michael Mullen (Ag*IDEA Liaison)</td>
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<tr>
<td>Joelle Pitts (Ag*IDEA Coordinator)</td>
<td>Kansas State Univ.</td>
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</table>
Soil, Water, & Environmental Sciences

Learning Outcomes

- **Knowledge** → demonstrate proficiency in scientific principles and illustrate interrelationships
- **Skills** → apply basic technical principles to management of ecosystems
- **Communication** → effective oral and written formats
- **Application** → define problems, retrieve and synthesize information, propose and evaluate potential solutions
- **Professionalism** → appreciate transdisciplinary research and collaboration
# SWES Curriculum

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Soil biology</td>
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<tr>
<td>Soil chemistry</td>
<td>3</td>
</tr>
<tr>
<td>Soil physics</td>
<td>3</td>
</tr>
<tr>
<td>Pedology</td>
<td>3</td>
</tr>
<tr>
<td>Hydrology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Minimum of 4 core areas required**

| Statistics           | 3 credits |
| Seminar              | 1 credit  |
SWES Curriculum

Electives 21-24 credits

Soil, water, nutrient management

- Soil fertility
  - Soil erosion & conservation
  - Environmental appl. of soil science
  - Plant-water relations
  - Waste management
  - Wetlands
  - Stormwater BMPs
  - Bioenergy and Environment
Electives  21-24 credits

Technology, analytics
- Applied geostatistics
- Quantitative remote sensing
- Precision agriculture technology
- Experimental methods
- Instrumentation for hydrologic applications
- Watershed monitoring & assessment

Policy, law

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## Soil, Water, & Environmental Sciences
### M.S. Degree & Certificate

<table>
<thead>
<tr>
<th>Fall</th>
<th>Soil Physics</th>
<th>Soil Chemistry</th>
<th>Soil Physics</th>
<th>Soil Chemistry</th>
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<td>Soil Pedology</td>
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<tr>
<td>Soil Hydrology</td>
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<table>
<thead>
<tr>
<th>Spring</th>
<th>Soil Biology</th>
<th>Soil Physics</th>
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<tr>
<td>Soil Chemistry</td>
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Soil, Water, & Environmental Sciences

Learning Assessment

- performance in body of coursework, especially in the core subjects
- evaluation of seminars, papers, abstracts, and other products of knowledge synthesis
- synthesis paper on contemporary problem of interest
- successful completion of oral exam
- pass fundamental soil science exam

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Interactive Distance Education Alliance
Soil, Water, & Environmental Sciences
Projected Enrollments and Revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>$/CR</th>
<th>Projected Enrollment*</th>
<th>Revenue Total</th>
<th>AG*IDEA (12.5%)</th>
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<tbody>
<tr>
<td>1</td>
<td>445</td>
<td>20</td>
<td>$80,100</td>
<td>$10,013</td>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
<td>445</td>
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<tr>
<td>Total</td>
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<td>$560,700</td>
<td>$70,088</td>
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