



# master of science agronomy

IOWA STATE UNIVERSITY

ARE YOU LOOKING FOR A WAY TO ADVANCE YOUR CAREER WHILE KEEPING YOUR COMMITMENTS?

## LOOK NO FURTHER

It's time to look at Iowa State University. Career and family commitments don't mean an advanced degree is out of the question. You can earn a masters degree from one of the leading agricultural institutions in the country without even leaving your desk. The Master of Science in Agronomy program at Iowa State University is the first such degree you can earn from your home or office simply by using your computer and the Internet. But it's more than that.

**"IF I HADN'T HAD THIS PROGRAM, I SIMPLY WOULD NOT HAVE A MASTER'S DEGREE"**

—DIANE DEJONG,  
PROGRAM GRADUATE

### WHAT'S DIFFERENT ABOUT THIS DEGREE?

Traditional graduate degrees in agronomy emphasize research. This degree program—aimed at professionals working in industry and government—emphasizes development of superior problem-solving and communication skills. It is a 40-credit, non-thesis program that provides a diverse background in agronomy and related disciplines by integrating crop, soil, climate, and pest management information into a rigorous curriculum. To complete the program, students also formulate a professional development project called a creative component, a report that applies course content to real-world agronomy issues.

### WHEN AND WHERE YOUR SCHEDULE PERMITS. . .

Built-in flexibility allows students to complete the program at their own pace relative to their professional, family, and other commitments. Although it is possible to finish in two years, most students enroll in only one or two courses per semester while working full-time. Therefore, most students achieve their masters degree in three to five years.

Students and their instructor at the on-campus workshop, Agronomy 594





**“I DIDN'T FEEL LIKE I COULD JUST QUIT AND GO BACK TO COLLEGE PROFESSIONALLY OR FINANCIALLY. I DON'T KNOW HOW ANYONE COULD HAVE A CAREER AND GET THEIR MASTERS ANY OTHER WAY.”**

**— MARK JOHNSON,  
PROGRAM GRADUATE**



### **AWARD-WINNING PROGRAM**

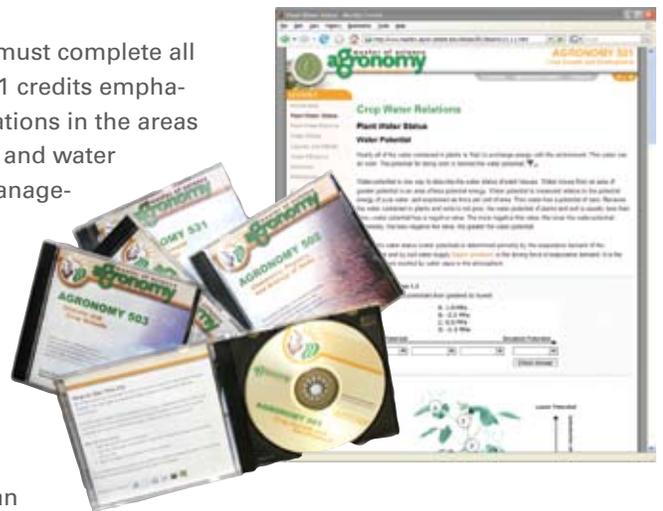
The M.S. in Agronomy program has drawn positive attention for years, receiving the Innovator's Award from the Iowa Distance Learning Association in 2006, the ISU College of Agriculture Team Award in 2007, and awards from the American Society of Agronomy in its Educational Materials national award program.

### **WHAT IS THE PROGRAM LIKE?**

The core of the program is its courses, which are accessible by computer via the internet and CD. The courseware combines interactive material on the CD with online communication tools, connecting you with your classmates, professors, and up-to-the-minute information. Most of the program can be completed remotely from your home or office; however, the program orientation, Agronomy 594 (a 4-5 day workshop), and a creative component seminar will require you to travel to the Ames, Iowa campus.

To attain your master's degree, you must complete all 40 credits of the program. The first 31 credits emphasize technical knowledge and applications in the areas of climatology, crop production, soil and water management and integrated pest management. The remaining credits focus on integration of knowledge and development of problem solving and professional skills.

The culminating portion of the program is a professional development project called a creative component. The creative component is an in-depth analysis of a problem or topic resulting in specific conclusions or recommendations which takes the form of a written report. Since a majority of our students are working professionals, the creative component is seen as an opportunity to apply course content to the everyday agronomy issues they may face.



### **WHAT IS THE COST?**

Because the M.S. in Agronomy program is offered at a distance, many of the costs associated with getting a masters degree are no longer a concern. You can keep your current employment and don't need to relocate. Many employers support continued education with compensation, and there are several scholarship and funding opportunities available to students in the program. For up-to-date graduate tuition rates, visit our website. Aside from tuition costs, you will also need to pay a delivery fee for course materials, textbook costs, and travel, lodging, and meal expenses for on-campus visits.

**“YOU HAVE [DEADLINES], BUT AT THE SAMETIME YOU HAVE FLEXIBILITY TO WORK ON YOUR OWN SCHEDULE.”**

**— MIKE JANSSEN,  
PROGRAM GRADUATE**



**VISIT US ONLINE: <http://masters.agron.iastate.edu>**

## WHAT ARE THE ADMISSION REQUIREMENTS?

To be admitted to the program, you must meet the following prerequisites:

1. Obtain a bachelor's degree from an accredited institution
2. Graduate in the top half of your class (approximate GPA of 2.8 or higher on a 4.0 scale)
3. Complete the following ISU courses or their equivalent at another institution:

- **Biology 109:** Introductory Biology (3 cr.)
- **Chemistry 163:** General Chemistry (4 cr.)
- **Math 140:** College Algebra (3 cr.)
- **Statistics 104:** Introduction to Statistics (3 cr.)
- **Agronomy 114:** Principles of Crop Production (3 cr.)\*
- **Agronomy 154:** Fundamentals of Soil Science (3 cr.)\*

\* Prerequisite crop and soil courses are waived for Certified Crop Advisers (CCA).

These prerequisites have been limited to those considered essential because many students did not major in agronomy as undergraduates. If you have completed a 4-year degree from a College of Agriculture, you have satisfied most of these requirements.

## HOW DO I APPLY?

To apply, you must complete a pre-application form, submit official transcripts, and provide three professional letters of recommendation. You can find the pre-application form on our website, or contact us and we'll send you a paper copy. If you meet the profile for admission, we will instruct you on how to officially apply to the Graduate Admissions Office. Otherwise, we can help you further prepare to meet the requirements.



## CONTACT US

If you have any questions or comments, don't hesitate to contact us or visit our website.

Master of Science in Agronomy  
2206 Agronomy Hall  
Iowa State University  
Ames, Iowa 50011-1010

toll-free: 800-747-4478  
phone: 515-294-2999  
fax: 515-294-5506  
e-mail: [msagron@iastate.edu](mailto:msagron@iastate.edu)  
<http://masters.agron.iastate.edu>

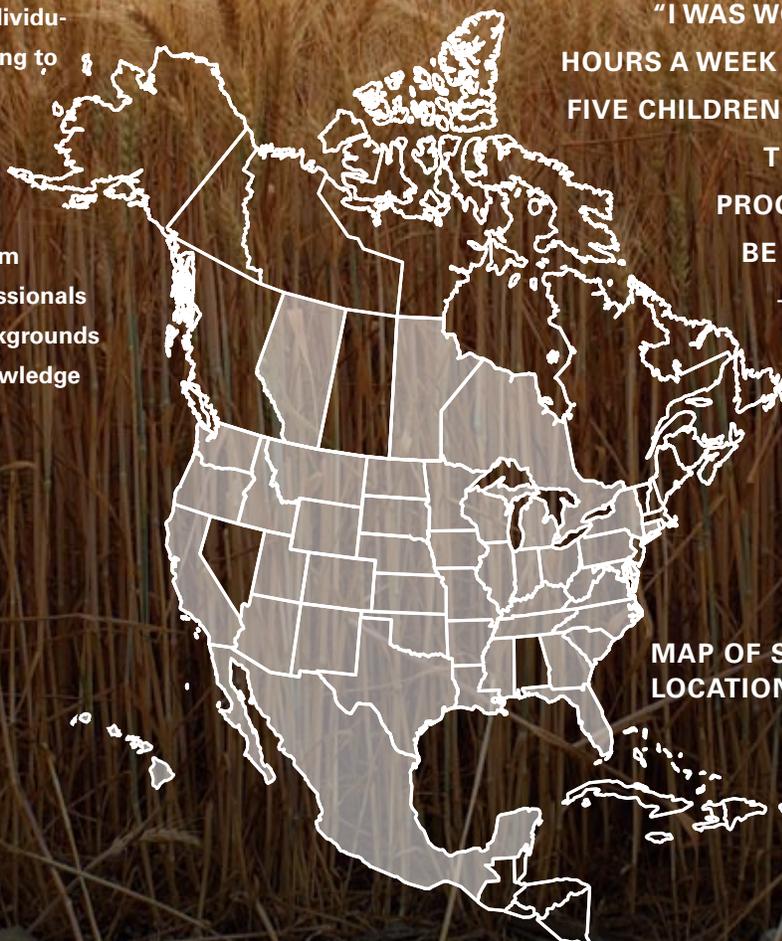
## WHO ARE MS STUDENTS?

MS students are self-motivated, disciplined individuals with family and career commitments looking to advance their education. They come from all over the world, including 41 different states, 3 Canadian Provinces, and Mexico. Though many students work in the seed industry, extension, or government, the program also attracts producers, consultants, and professionals in other varied occupations. This variety of backgrounds gives our student community a breadth of knowledge unique to the distance learning environment.

## AREAS OF STUDENT OCCUPATION

4	Chemical Industry
13	Consultant/Co-op
25	Government/Extension
7	Production
49	Seed Industry
14	Other

Total number of students: 112



"I WAS WORKING 60-70 HOURS A WEEK AND RAISING FIVE CHILDREN AT THE SAME TIME, SO [THE] PROGRAM HAD TO BE FLEXIBLE . . ."

—MIKE JANSSEN,  
PROGRAM GRADUATE

MAP OF STUDENT LOCATIONS

## COURSE DESCRIPTIONS

### **Agron 501. Crop Growth and Development**

3 cr. Fall. Prereq: Agron 114, Math 140, Chem 163 and Biol 109. Physiological processes in crop growth, development and yield: photosynthesis, respiration, water relations, mineral nutrition, assimilate partitioning, seedling vigor, light interception and canopy growth, root growth, reproduction and yield.\*

### **Agron 502. Chemistry, Physics, and Biology of Soils**

3 cr. Fall. Prereq: Agron 114, Agron 154, Biol 109, Chem 163, and Math 140. Soil chemical, physical, and biological properties that control processes within the soil, their influence on plant/soil interactions, and soil classification. Basic concepts in soil science and their applications.\*

### **Agron 503. Climate and Crop Growth**

3 cr. Fall. Prereq: Agron 114 and Math 140. Applied concepts in climate and agricultural meteorology with emphasis on the climate-agriculture relationship and the microclimate-agriculture interaction. Basic meteorological principles are also presented to support these applied concepts.\*

### **Agron 511. Crop Improvement**

3 cr. Spring. Prereq: Agron 114, Math 140, Chem 163 and Biol 109. Basic principles in the genetic improvement of crop plants. Methods of cultivar development in self-pollinated and cross-pollinated crop species.\*

### **Agron 512. Soil-Plant Environment**

3 cr. Spring. Prereq: 502. Recommended: 501. Soil properties and their impact on soil/plant relationships. Soil structure, aeration, moisture, and nutrients will be discussed in the context of soil fertility and environmental quality management.\*

### **Agron 513. Quantitative Methods for Agronomy**

3 cr. Spring. Prereq: Agron 114, Math 140 and Stat 104. Quantitative methods for analyzing and interpreting agronomic information. Principles of experimental design, hypothesis testing, analysis of variance, regression, correlation, and graphical representation of data. Use of JMP for organizing, analyzing, and presenting data.\*

### **Agron 514. Integrated Pest Management**

3 cr. Summer 2006. Prereq: Agron 114, Agron 501, Math 140, Chem 163 and Biol 109. Recommended: Agron 502 and 503. Principles and practices of weed science, entomology, and plant pathology applied to crop production systems. Biology, ecology, and introductory principles of crop pest management.\*

## COURSE DESCRIPTIONS CONTINUED

### **Agron 531. Crop Management and Ecology**

3 cr. Fall 2006. 3 cr. Fall 2006. Prereq: Agron 501, 502 and 503. Recommended: Agron 512 and 514. Ecological principles underlying crop production systems. Crop production in the context of management approaches, system resources and constraints, and interactions. Emphasis on the ecology of row and forage crops common to the Midwest.\*

### **Agron 532. Soil Management**

3 cr. Fall 2006. 3 cr. Fall 2006. Prereq: Agron 501, 503 and 512. Recommended: Agron 513. Evaluates the impact of various soil management practices on soil and water resources. Combines and applies basic information gained in Agron 502 and Agron 512. Emphasizes the agronomic, economic, and environmental effects of soil management strategies.\*

### **Agron 533. Crop Protection**

3 cr. Fall 2006. 3 cr. Fall 2006. Prereq: Agron 514. Integrated management systems for important crop pests. Cultural, biological and chemical management strategies applicable to major crops grown in the Midwest.\*

### **Agron 591. Agronomic Systems Analysis**

3 cr. Spring. Prereq: Agron 511, 513, 531, 532 and 533. Analysis of cropping systems from a problem-solving perspective. Case studies will be used to develop the students' ability to solve agronomic problems.\*

### **Agron 592. Current Issues in Agronomy**

3 cr. Spring. Prereq: Agron 501, 503, 511, 512, 513 and 514. Study and discussion of topics of current interest to the field of agronomy. While Agron 591 deals with agronomics at the farm and landscape level, Agron 592 seeks to address issues on a broader scale including off-farm agricultural impacts.\*

### **Agron 594. Workshop in Agronomy**

1 cr. Summer. Prereq: Agron 501, 502 and 503. Recommended: Agron 511, 512 and 513. Practical field and laboratory experience integrating coursework in climatology, crops, and soils. Workshop includes lectures, labs, and local agri-business tours.\*

### **Agron 599M. Creative Component**

1-3 cr. (3 cr. total). Fall, Spring, Summer. A written report based on research, library readings, or topics related to the student's area of specialization and approved by the student's advisory committee.\*

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\* Required courses for the Master of Science in Agronomy degree program. Restricted to graduate students enrolled in degree programs at Iowa State University.

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