Fundamentals in Applied Agronomy

January-March, 2011

Certified Crop Adviser Preparatory Short Course offered by the American Society of Agronomy

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Class Schedule/Time

Orientation Thursday January 6, then consecutive Tuesdays from January 11 to March 29
7:00 to 9:15 p.m. Eastern/ 6:00 to 8:15 p.m. Central/5:00 to 7:15 Mountain/4:00 to 6:15 p.m. Pacific

Most class periods will last about two hours, with a ten-minute break halfway through.

To maximize their learning, students will be expected to spend time reading and studying outside of class in addition to the scheduled class periods. The instructor may be contacted at any time via telephone or email with questions or comments.

Communication Requirements

High-speed internet access
Email address
PC headset or PC Microphone

Textbooks Required (must be purchased by student)

Preparing for the 2011 International CCA Exam (International Plant Nutrition Institute) $50.00
http://ppi-store.stores.yahoo.net/ccamanual.html
You may also use **Preparing for the 2010 International CCA Exam** if that publication is available to you

Soil Fertility Manual (International Plant Nutrition Institute) $25.00- $33.00
http://ppi-store.stores.yahoo.net/soilferman.html

Field Crop Scouting Manual (University of Illinois) You may order either the CD version (Product Number CDR880e) or the hard copy (Product Number X880e)—each is $66.00. https://pubsplus.uiuc.edu/

Please note: Much of the required reading for this course will be available from Extension and other publications available free on the Internet (see syllabus on the pages that follow).

Student Directory Information Student name, city/state/country, phone, and email will be included in a listing on the class web site, available only to other Fundamentals students and those administering this class. Students can opt out of this listing when they register for the class.

Exams/Grading A ten question quiz will be offered weekly that covers the materials from the previous week, available for students to take on-line during their own time. Individual performance on weekly quizzes will be provided confidentially to students to give an indication of mastery of various topics. **No make-up quizzes will be offered.** There will not be a final exam for this course, and grades will not be assigned. Students who complete all 12 quizzes can request a certificate of completion for the course.

Class Web Site Students registered for the class will have access to the class web site where the following will be posted:

Lecture video recordings (audio with PowerPoint slides)
PowerPoint slides in PDF format.
Link to quizzes
Answer keys to quizzes

Access to the class web site will begin by January 6 and end one month following the last class period, ending April 29, 2011.

Syllabus (subject to change)

Date		Topics	Reading Assignment Prior to Class	Quizzes
Jan 6	**Orientation**	Using the Online Classroom, Instructor Introduction, Review Learning Objectives	Becoming Certified: https://www.certifiedcropadviser.org/become-certified/ International Certified Crop Adviser Performance Objectives https://www.certifiedcropadviser.org/files/certifiedcropadviser/obj_icca.pdf	
Jan 11	**Soil and Water Management**	**Lesson 1.** Soil Chemical, Physical and Biological Characteristics	Preparing for the 2011 International CCA Exam, pages 49-80 (see required texts) Management of Wisconsin Soils Chapters 1 and 2: http://www.soils.wisc.edu/extension/pubs/A3588.pdf Using Web Soil Survey (WSS) (Explore) http://websoilsurvey.nrcs.usda.gov/app/	
Jan 18		**Lesson 2.** Site Characterization, Tillage and Residue Management	Management of Wisconsin Soils Chapter 5 Managing Crop Residue with Farm Machinery http://www.agry.purdue.edu/ext/pubs/AY-280-W.pdf Public Land Survey System http://dnr.wi.gov/forestry/private/PLSSTut/plsstut1.htm	
Jan 25		**Lesson 3.** Water and Solute Movement, Soil/Plant Water Relations, Irrigation and Drainage	Management of Wisconsin Soils Chapter 3	Last Day Quiz 1

Feb 1	**Nutrient Management**	**Lesson 4.** Basic Concepts of Plant Nutrition and Soil Fertility, Soil pH, Soil and Tissue Analysis	Preparing for the 2011 International CCA Exam, pages 1-38 Soil Fertility Manual (see required texts) Chapters 1-9	Last Day Quiz 2
Feb 8		**Lesson 5.** Fertilizers and Other Nutrient Sources, Liming, Nutrient Application	Soil Fertility Manual Chapter 10	Last Day Quiz 3
Feb 15		**Lesson 6.** Manure, Nutrient Management Planning	Soil Fertility Manual Chapter 11	Last Day Quiz 4
Feb 22	**Crop Management**	**Lesson 7.** Cropping Systems, Hybrid and Variety Selection	Preparing for the 2011 International CCA Exam, pages 143-165	Last Day Quiz 5
Mar 1		**Lesson 8.** Crop Growth, Development, and Diagnostics	How a Corn Plant Develops http://www.extension.iastate.edu/hancock/info/corn.htm Growth and Development Guide for Spring Wheat http://www.extension.umn.edu/distribution/cropsystems/DC2547.html	Last Day Quiz 6
Mar 8		**Lesson 9.** Harvest and Storage, Managing Production Risk, Precision Farming	How an Alfalfa Plant Develops http://www.ag.ndsu.edu/pubs/plantsci/hay/r648w.htm Soybean Growth Stages http://extension.agron.iastate.edu/soybean/production_growthstages.html	Last Day Quiz 7
Mar 15	**Pest Management**	**Lesson 10.** Principles of Integrated Pest Management, Pest/Ecosystem Interactions	Preparing for the 2011 International CCA Exam, pages 89-133 Field Crop Scouting Manual (see required texts), Chapter 1	Last Day Quiz 8
Mar 22		**Lesson 11.** Pest Identification, Sampling and Monitoring, Decision-Making Guidelines	Field Crop Scouting Manual, Chapter 2 and Weed Keys 2010 Weed Control Guide for Ohio and Indiana http://www.btny.purdue.edu/pubs/WS/WS-16/	Last Day Quiz 9
Mar 29		**Lesson 12.** Pest Management Strategies—Insects, Weeds, Diseases	Field Crop Scouting Manual, Chapters 3, 4, and 5 Various Extension guides (to be announced)	Last Day Quiz 10

The last day for Quiz 11 is April 12. The last day for Quiz 12 is April 19.

Course Description Fundamentals in Applied Agronomy is an introductory crops and soils course designed for the practitioner hoping to build their knowledge and skills in the topics that are most needed for a Certified Crop Adviser. Upon completion the learner should have a fundamental knowledge of soil and water, nutrient management, pest management, and crop management. Topics include basic soil physical and biological characteristics, resource conservation, irrigation, drainage, water quality, soil and tissue analysis and interpretation, fertilizers and other nutrient sources, soil pH and liming, pest identification, sampling, and control, cropping systems, planting practices, crop growth and development, harvest, storage, and managing production risk, among many others.

The course is taught using distance education technology, but a variety of practical examples and case situations will be woven into content delivery to maximize understanding and its application in the field. Whether you are personally involved in production agriculture, advising farmers as an agricultural retailer or consultant, a representative for an agricultural business or government agency, or just looking to build your expertise, this course will cover topics that should be of direct interest to you. While this course is not designed to teach a student how to take the Certified Crop Adviser exams or to cover all the topics included in local or International performance objectives, it will complement an individual's preparation in becoming a Certified Crop Adviser or Certified Professional Agronomist.

Course Instructor Bruce Erickson is a Certified Professional Agronomist that uses his expertise and experience in education and agribusiness to provide solutions for crop producers, their advisers, and the industries that depend on them. Erickson's areas of expertise include corn and soybean production, remote sensing and its application in precision agricultural practices, instructional design, and competency-based education and assessment. For the last several years Erickson has worked in a consulting role to agribusinesses and government agencies in the U.S. and Canada. He has experience in building technical, product-related, sales and marketing programs to fulfill individual proficiency needs and to meet business goals, and then delivering through classroom, field, teleconference, CD and web-based platforms. Erickson is the Director of Cropping Systems Management in the Department of Agricultural Economics at Purdue University, where he conducts research related to farm technology and farm management economics, leads the team that plans and implements the Top Farmer Crop Workshop, and also works extensively with the Site-Specific Management Center and Field Crops Extension programming.

Erickson grew up on an Iowa farm, completed his undergraduate work at Iowa State University in Agronomy, then began his professional career as an agronomist with Pioneer Hi-Bred. After completing his Master's at Iowa State in Crop Production and Physiology and his PhD in Agronomy at Purdue, Erickson was on the staff of the Purdue Department of Agronomy where he taught the introductory agronomy course and played a leading role in developing and maintaining the performance objective documents and the minimum proficiency exams for the International Certified Crop Adviser Program (CCA). More recently, Bruce served as Senior Technical Designer at Agri Business Group in Indianapolis, an agricultural consulting company.

For more information, see: http://www.agecon.purdue.edu/directory/staff/erickson.asp