

# **Environmental Crop Nutrition - Web AGR 6422c (3 Credits) – Fall 2017**

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**Course description:** Study of environmentally sound crop nutrient management strategies. During this course the effects of environmental conditions and nutrient management on crop production and environmental quality will be outlined. This course is intended to bridge theoretical aspects of plant mineral nutrition and practical applicability of basic principles of fertilization.

**General course objectives:** 1) Discuss root growth and nutrient uptake dynamics; 2) Outline the function of nutrients in plants; 3) Present methods for assessment of crop nutrient status and diagnosis of plant deficiency and toxicity symptoms; 4) Discuss the use of irrigation and nutrient budgets for agricultural crops; 5) Outline crop nutrient concentrations and requirements for selected crops; 6) Describe interactive environmental and biological processes that control crop nutrient uptake and potential nutrient losses; 7) Develop Best Management Practices (BMP's) and/or crop nutrient management plans for cropping systems.

**Prerequisites:** An undergraduate course in Agronomy or Soil Science or consent of instructor.

**Class Schedule:** Course content is delivered in E-learning Canvas and is typically available asynchronously, except for potential discussion/chat sessions.

**Office Hours:** Students are encouraged to contact the instructor by phone (352-294-3792) or email ([jerickson@ufl.edu](mailto:jerickson@ufl.edu)) as needed to address questions regarding course content and management. Interactive video conference sessions are also possible.

**Instructional approach:** Dr. Erickson has developed and will provide nearly all instructional content. If you are having any problems with the course or need assistance, don't wait until late in the semester to contact the instructor. The sooner we begin to address the problem, the more likely you will achieve a satisfactory outcome.

This is a fully online course delivered in E-Learning Canvas, the centrally supported course management system at UF. Canvas is the online source for the majority of your learning resources, assignments, and grades in this course. It can also be used for interacting with the professor and other students in the course. For a tutorial regarding E-Learning Canvas functionality, go to <https://lss.at.ufl.edu/>. (Links to an external site.)Links to an external site.If you need help resolving any other technical issues that can't be resolved by contacting the instructor, you can contact the UF help desk at <http://helpdesk.ufl.edu>.

Students enrolled in the course (note: you must be enrolled in the course to access course materials) should login to Canvas on the first day of the semester at the address above. You will need your gatorlink username and password to login to Canvas.

There will be **no required textbook**. I will use a number of textbooks, including those listed below. Excerpts from these texts and other additional readings from the primary literature for the course will be provided through Canvas.

- 1) Fageria, NK. 2009. *The use of nutrients in crop plants*. CRC Press. Boca Raton, FL.
- 2) Barker, AV and DJ Pilbeam. 2007. *Handbook of Plant Nutrition*. CRC Press, Boca Raton, FL.
- 3) Marschner, P. 2012. *Mineral Nutrition of Higher Plants*. Elsevier, Waltham, MA.

All learning modules, assigned readings, video lectures, and other course content will be posted in Canvas. Assignments will be provided in the “Assignments” section of Canvas. Threads of discussion on assigned topics and other topics of interest will be posted in the “Discussion” section of Canvas.

Assignments will be posted with expected due date. Any quizzes or exams will be available in Canvas for a 48-hr period as scheduled in your syllabus and once started you will have a fixed amount of time to complete the quiz or exam. The quizzes will emphasize the material covered in the preceding section, but some material will be comprehensive. The Exam at the end of the course will cover all course content. Quizzes and exams will be closed book (any necessary formulas/equations will be provided in the exam) and you have to finish within the allotted time. You will not receive any credit for unanswered questions so plan your time well.

**Attendance:** Students are responsible for understanding all material provided through Canvas. Students are also responsible for meeting deadlines for assignments, quizzes, exams, etc. as indicated in the course schedule. There will be no make-up quizzes, exams, or assignments except for excused absences. Make-up work should be arranged prior to the excused absence if possible (e.g., university-sanctioned events), or as soon as possible for unexpected excused absences (e.g., illness or death in the immediate family).

**Student Evaluation & Grading:** There will be a total of 600 points for the class. Seven quizzes available at the end of each section will count 50 points each. The total point value of the four assignments will be worth 100 points. You will also be required to submit a written nutrient management plan worth 50 points and a final exam worth 100 points.

<u>Item</u>	<u>Points</u>
Quizzes	350
Assignments	100
Nutrient management	50

plan	
Exam	<u>100</u>
Total	600

Assigned exercises, quizzes, nutrient management plans, and exams will be graded based on completeness, conciseness, clarity, effort, organization, originality and timeliness. Late work will not be accepted without an excused absence. Please contact instructor as soon as possible if you have an excused absence planned.

Students attaining the following percentages are guaranteed at least the following grades:

A 93 - 100%	A- 90 - 92%	B+ 87 - 89%	B 83 - 86%
B- 80 - 82%	C+ 77 - 79	C 73 - 76%	C- 70 - 72%
D+ 67 - 69%	D 63 - 66%	D- 60 - 62%	E <60%

For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx> (Links to an external site.)Links to an external site.

### Accommodations for Students with Disabilities

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, [www.dso.ufl.edu/drc/](http://www.dso.ufl.edu/drc/) (Links to an external site.)Links to an external site.) (Links to an external site.)Links to an external site. by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

### Online Course Evaluation Process

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluation at <https://evaluations.ufl.edu> (Links to an external site.)Links to an external site.. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/> (Links to an external site.)Links to an external site..

### Academic Honesty

In 1995 the UF student body enacted an honor code and voluntarily committed itself to the highest standards of honesty and integrity. When students enroll at the university, they commit themselves to the standard drafted and enacted by students, which states "We, the members of

the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity by abiding by the Honor Code." On all work submitted for credit by students at the university, the following pledge is either required or implied: **"On my honor, I have neither given nor received unauthorized aid in doing this assignment."** The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

It is assumed all work in this course will be completed independently unless the assignment is defined as a group project, in writing by the instructor.

## **Campus Resources**

### Health and Wellness

- U Matter, We Care: If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) or 352 392-1575 so that a team member can reach out to the student.
- Counseling and Wellness Center: <http://www.counseling.ufl.edu/cwc/Default.aspx>, ([Links to an external site.](#))[Links to an external site.](#) 352 392-1575; and the University Police Department: 352 392-1111.
- Sexual Assault Recovery Services (SARS): Student Health Care Center, 352 392-1161.

### Academic Resources

- E-learning technical support, 352 392-4357 (select option 2) or e-mail to [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu). <https://lss.at.ufl.edu/help.shtml> ([Links to an external site.](#))[Links to an external site.](#)
- Career Resource Center, Reitz Union, 352 392-1601. Career assistance and counseling. <http://www.crc.ufl.edu/> ([Links to an external site.](#))[Links to an external site.](#)
- Library Support, <http://cms.uflib.ufl.edu/ask> ([Links to an external site.](#))[Links to an external site.](#) Various ways to receive assistance with respect to using the libraries or finding resources.
- Writing Studio, 302 Tigert Hall, 352 846-1138. Help brainstorming, formatting, and writing papers. <http://writing.ufl.edu/writing-studio/> ([Links to an external site.](#))[Links to an external site.](#)