

SYLLABUS
Principles and Components of Precision Agriculture

Fall Semester 2011

Course Number SOCR 577
3 Credit Hours

I.

A. Instructor: Raj Khosla

Soil and Crop Sciences
Office: C013 Plant Science Building
Phone office: 491-1920

Email: raj.khosla@colostate.edu Email is one of the most convenient ways of communicating with me. I usually check my email several times a day.

Office Hours: Any time the door is open or the light is on:
Alternatively, you can schedule a time with me and I will be there.

B. Teaching Assistant: Louis Longchamps

W010 Plant Sciences Building
Soil & Crop Sciences
Phone office: 491-6237
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Office Hours: Wednesdays 10am to 12 noon

II. Course Schedule:

- A. **Lecture:** Tues. and Thurs. **12:30 pm** through **1:45pm**. Room #105 Military Science Bldg. (Alternate arrangements: lecture time may be re-scheduled as per class requirements)
- B. **Laboratory:** Scheduled for Thursdays 2:00 through 4:40pm. Room W-10 Precision Agriculture - GIS Lab in Plant Sciences Bldg
[You will informed promptly where we will meet for which lab.]

For your lab project and home-works, you may work in my Precision Ag/ GIS Lab located in W-10 Plant Sciences Building. It is open from 9am to 4:30pm and you may complete your homework on the computers on the East Wall of the lab.

(Alternate arrangements: Lab time and place may be re-scheduled as per class requirements)

- C. **Field trip:** Aug 25th, Sep 1st, 8th, 22nd, 29th, and Oct 13th.
- D. **Midterm Exams:** September 13th and October 6th.
- E. **Final Examination:** Tuesday November 1st (Time: 12:30pm to 1:45pm)

III. Course Objectives:

Upon completion of this course, students will be able to:

1. Students will be able to work with differentially corrected GPS receivers and interpret satellite location data transmitted from satellites.
2. Students will be able to do real time mapping using GPS, create their own GIS data layers, and be able to work with existing GIS data layers, modify them, convert from raster to vector data, and manage a GIS database including file management systems.
3. Students will be able to develop digital variable rate applications maps, evaluate digital yield maps, post-process them; create management zones using remote sensing and other data layers.

IV. Course Grading:

A. Two midterm exams:	35 percent (15 + 20)
B. Home work Problems	15 percent
C. In class and take home laboratory assignments: (This will include journal paper review and/or a written research proposal and presentations)	15 percent
D. Final lab project:	15 percent
F. Final Exam:	20 percent

V. Text book:

The Precision-Farming Guide for Agriculturists: Editor John E. Kuhar. Published by Deere & Company, Moline, IL.

Other books, research papers and reading material will be reserved in the library or my lab for you to check out and do the assignments.