BOT 6928.Workshop on Plant Gas Exchange and chlorophyll fluorescence

This course provides practical techniques for measuring leaf level and ecosystem carbon dioxide and water exchange and leaf level chlorophyll fluorescence. The focus of the workshop is on terrestrial rather than aquatic measurements. Time of the course will be scheduled in consultation with the students enrolled, but we typically meet for 3 hr blocks during the week (lecture) or for 8 hr blocks on the weekend.

Topics covered in lecture format include:
1) respiration and photosynthesis from the ground up) Sources of exchange
2) gas laws, gas exchange principles and designs
3) curve fitting and photosynthesis models
4) chlorophyll fluorescence basics and measurements

Lab experiences
1) closed (transient, static) system gas exchange systems (leaves and whole ecosystem)
2) open system gas exchange systems
3) steady state gas exchange
4) chlorophyll fluorescence, ancillary measurements (leaf area, NDVI, LAI)

Learning outcomes Students finishing this course will have fundamental understanding of plant photosynthesis, respiration, transpiration, and chlorophyll fluorescence and how to measure them with different system designs.

Finally, all students have agreed to abide by the University Honor code, which prohibits copying text from other sources including the Web and claiming it as their own. Also know that software specifically exists that is designed to find such plagiarized text for teachers. Students caught plagiarizing will be subject to strong measures that may result in failure of the class or more serious consequences.