PLANT SCIENCES 727
Crop Breeding Techniques
Summer, 2009

Instructor and Contact Information:

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Office Hours: F 2:00-3:00 pm
Class Dates: T, TH (Starts on June 30th)
Course Information: www.ag.ndsu.nodak.edu/plantsci/plsc727/plsc727.htm

Course Description:

Identification of breeding methods used to develop superior genotypes in crop species.

Course Objectives:

1) Understand the science and art of the effective management of genetic variability.

2) Know how to choose germplasm and realize that no breeding technique and/or genomic tool will be successful without the right germplasm.

3) Know how to select breeding methods to maximize genetic improvement and cultivar development.

4) Know why we self, why we cross, and why we use specific breeding techniques for adaptation, genetic improvement, and cultivar development.

Evaluation Procedures and Criteria:

Students will be evaluated based on attendance, reports, and a final exam.

Attendance is required for all presentations. Instructor will make one exception per student in specific circumstances with major advisor approval. In those cases, both student and instructor should agree prior to student absence.

One-page (double-spaced, font size 12) original and creative printed reports are required for each presentation (attended or not). Therefore, your number of reports will depend on the number of presentations. No exceptions will be made.
Deadline: Weekly reports should be presented to instructor **by** next class period. Therefore, reports based for June 30th presentation should be presented the morning of July 2 (before class starts). The last report should be presented prior to final exam.

Final exam content will be based on breeding techniques presented.

Grading

Attendance	10 Points	If > 90 then A
Reports	70 Points	If > 80 then B
Final Exam	20 Points	If > 70 then C
Total	**100 Points**	If < 70 then F

Pre-Requisites:

PLSC446 Genetics and Plant Improvement (undergraduate)
PLSC646 Genetics and Plant Improvement (graduate)
PLSC724 Design I
For active learning in this class it is recommended you understand the topics discussed in Population Genetics (PLSC780), Quantitative Genetics (PLSC781), Field design II (PLSC734), and Advanced Plant Breeding (PLSC776)

Student Recommended Resources:

Carena, M.J. (ed.) 2009. Handbook of Plant Breeding Vol. 3: Cereals. Springer, New York, NY.

Fehr, W.R., and H.H. Hadley (eds.) 1980. Hybridization of Crop Plants. American Society of Agronomy, Madison, WI.

Fehr, W.R. (ed.) 1987. Principles of Cultivar Development. Vol. 2 Crop Species. Macmillan Publishing Company, New York, NY.

Student with Special Needs:

Students with disabilities are asked to inform the instructor as soon as possible. Arrangements can be made, in cooperation with the office of Disabled Student Services, to provide appropriate services.

Academic Honesty Statement:

All work in this course must be completed in a manner consistent with the College of Agriculture Honor System (http://www.ag.ndsu.nodak.edu/colag/honor.htm).