

**I. Catalog Description and Credit Hours of Course:**

Principles of plant reproduction and inheritance and their application to development of improved genotypes. Variety evaluation and distribution procedures. Prerequisite: AO 120/020 or BI 190. (3)

**II. Prerequisite(s):**

AO 120/020 or BI 190

**III. Purposes or Objective(s) of the Course:**

- A. Develop an understanding of genetics, the gene, how they are related to inheritance to transfer traits from one generation to another.
- B. The processes of mitosis and meiosis
- C. Learn basic plant breed terminology.
- D. Examine the various methods of plant reproduction
- E. Understand the principles and techniques involved with breeding self-pollinated and cross-pollinated crops.

**IV. Expectations of Students:**

- A. All assignments to be turned in are due at the beginning of the class period.
- B. If for some reason, you are not able to make it to an examination; you must talk to me before the test is given.
- C. If for any reason, papers are turned in late, five points will be subtracted each working day thereafter. If for some reason you cannot be present when you are assigned to give a presentation, you must make arrangements with another to trade places, and notify me of the switch.
- D. You are encouraged to attend class as attendance is taken however if you must miss I would appreciate being notified prior to class. You are responsible on all tests for any information imparted in class.
- E. I adhere to the University policies concerning academic honesty and then referred to the web site: Code of Student Conduct: ([www6.semo.edu/judaffairs/code.html](http://www6.semo.edu/judaffairs/code.html))

**V. Course Content or Outline:**

- A. The Plant Breeder and Their Work
- B. Reproduction in Crop Plants
- C. Genetics in Relation to Plant Breeding
- D. Methods of Breeding Field Crops
- E. Techniques in Breeding Field Crops
- F. Biotechnology and Plant Breeding
- G. Breeding Wheat / Oats / Barley, Rice
- H. Breeding Soybeans
- I. Breeding Corn
- J. Breeding Cotton
- K. Breeding Forage Crops

- L. Breeding Horticultural Crops
- M. Seed Production Practices

**VI. Textbook(s) and/or Other Required Materials or Equipment:**

- A. Poehlman J, DA Sleper. 1995. Breeding Field Crops, 4<sup>th</sup> ed. Iowa State University Press, Ames IA.

**VII. Basis for Student Evaluation:**

- A. Four Exams (67 percent)
- B. Current-topics paper (20 percent)
- C. Oral presentation (13 percent).
- D. There will be periodic short assignments that are added to the total number of points at the end of the semester.

Grades will be determined by percentage.

- A 90 to 100 percent
- B 80 to 89 percent
- C 70 to 79 percent
- D 60 to 69 percent
- F Below 60 percent