900. Readings in Criminal Justice and Criminology  
Fall, 3 to 5 credits. Graduate students.  
Topical reading of major research contributions to the field of criminal justice. Consideration of applicability of criminological research to functioning of the criminal justice system.

CROP SCIENCE  
CSC

College of Agriculture and Natural Resources

101. Crop Science  
Fall, 3(3-0)  
Principles of identification, adaptation, management, and utilization of field crops for food and fiber. Fundamentals of crop management, breeding, weed control, crop quality, and tropical crops in world agriculture.

250. Plant and Animal Genetics  
Spring, 4(4-0) C S 211.  
Fundamentals of genetics with particular reference to problems in plant and animal biology.

251. Plant and Animal Genetics Laboratory  
Spring, I(0-2) 250 concurrently.

301. Forage Crops  
Fall, 3(2-2)  
Principles of forage crops, identification, physiology, management, and utilization of forage crops for hay silage, and pasture for livestock and for soil improvement and conservation.

380. Ecology and Physiology of Agricultural Plants  
Spring, 3(3-0) FOR 220 or BOT 301.  
Interrelationships of physiological processes and environmental manipulation for higher yield of agricultural plants.

402. Principles of Weed Control  
Fall, 3(2-2)  
Intersessional and administered jointly with the Horticulture Department.  
Comprehensive study of principles underlying weed control practices, and factors involved in both mechanical and chemical control.

406. Crop Improvement and Seed Production  
Winter, 4(3-2)  
Practical methods of crop improvement, seed production, storing, cleaning, packing, and distribution, seed certification of small grains, legumes, corn, beans, potatoes, visits to seed agencies and seed farms.

407. Special Crop Problems  
Fall, Winter, Spring, Summer. 1 to 3 credits. May re-enroll for a maximum of 9 credits.  
Approval of department.  
Independent study in any of the following specialties: special crop problems, production, physiology, ecology, weed control, turfgrass management, crop storage and preservation, and seed studies.

408. Principles of Plant Breeding  
Spring, 3(3-0)  
Intersessional and administered jointly with the Horticulture Department.  
Application of genetics and other sciences to breeding and improvement of agronomic and horticultural crops.

415. Turfgrass Management  
Spring, 3(2-2)  
Adaptation characteristics and utilization of turf grasses, management principles and physiological bases for establishment and maintenance of turf for lawns, athletic fields, golf courses, cemeteries, parks, highways and airports.

420. Seminar  
Winter, 1(1-0) May re-enroll for a maximum of 4 credits.  
Interdepartmental and administered jointly with Soil Science.

485. Seed Science  
Spring, 3(2-2) Approval of department.  
Morphological and physiological changes during seed formation, development, maturation and germination. Practical and biological aspects of seed drying, storage, deterioration, dormancy and quality. Current problems and research in seed science.

Winter, 3(4-0)  
For course description, see Interdisciplinary Courses.

801. Crop Ecology  
Fall of even-numbered years, 3(3-0)  
Approval of department.  
Environment withing the crop community and the environmental stresses limiting crop survival. Temperature, light, water and atmospheric stresses and variations in the crop canopy will be discussed.

803. Crop Physiology  
Spring, 3(3-0) Approval of department.  
Role of physiological factors determining maximum crop yields and quality.

805. Herbicidal Action and Metabolism  
Spring, 3(3-0) BOT 415 or concurrently.  
A study of the properties and characteristics of herbicides, the fundamental processes involved in the physiological action, behavior, and metabolism of herbicides.

814. Advanced Field Crop Studies  
Fall, Winter, Spring, Summer. 1 to 3 credits. May re-enroll for a maximum of 6 credits. Approval of department.  
Advanced work in any of the following specialties: advanced field crop studies, management, physiology, ecology, breeding, turfgrass culture, weed control, nutritional quality, tropical crops, crop extension, and seed studies.

820. Seminar  
Fall, Winter, Spring, 1(1-0) May re-enroll for a maximum of 3 credits.  
Interdepartmental and administered jointly with Soil Science.  
Studies and presentation of research in crop and soil sciences.

830. Physiological Genetics  
Winter, 3(3-0) Approval of department.  
Interdepartmental with and administered by the Forestry Department.  
Physiological bases for genetic variation in higher plants including adaptive physiology, quantitative genetics, growth correlations, biochemical genetics, hybrid physiology, and genetics.

831. World Crop Adaptation  
Spring, 3(3-0)  
Distribution, adaptation, and importance of crops in world agriculture and their production as influenced by climate, soil, people and markets.

851. Quantitative Genetics in Plant Breeding  
Fall of odd-numbered years, 4(3-1)  
One course in genetics or breeding, and one course in biometry, or approval of department.  
Genetic systems and quantitative inheritance in relation to the establishment of superior populations.

899. Research  
Fall, Winter, Spring, Summer. Variable credit.

920. Design and Analysis of Agronomic Experiments  
Spring, 3(3-0) STT 423 or approval of department.  
Constructing and analyzing designs for experimental investigations in the biological sciences.

951. Cytogenetics in Plant Breeding  
Winter of odd-numbered years, 3(3-0)  
BOT 427, 428, or approval of department.  
Interdepartmental with the Horticulture Department.  
Application of cytogenetic principles to plant breeding. Significance of recombination, role of induced mutations, polyploid, chromosome substitution, and aneuploid analyses as they apply to the field of plant breeding.

952. Plant Breeding Biometrics  
Winter of even-numbered years, 4(3-0)  
Approval of department.  
Biometrical genetics as it applies to plant breeding. Includes studies of path coefficients, partitioning of variance, and the principles of selection in a changing environment.

999. Research  
Fall, Winter, Spring, Summer. Variable credit.

DAIRY SCIENCE  
DRY

College of Agriculture and Natural Resources

214. Dairy Production  
Fall, Spring, 4(3-3)  

323. Dairy Cattle Judging  
Spring, 3(0-0)  
Desired type in dairy cattle. Judging and showing procedures. Competitive judging. Teams selected to represent Michigan State University in national competition.

371. Dairy Seminar  
Spring, 1(1-0)  
Juniors.  
Major issues pertinent to the dairy industry are described by authorities from MSU and the dairy industry of Michigan. Students are provided an opportunity for an exchange in ideas.
315. Money, Credit and Banking
Fall, Winter, Spring, Summer. 4(4-0)
200 or 210.
Commercial banking and the money supply, the Federal Reserve System, and other financial institutions. Sources and uses of funds in the financial market.

320. Macroeconomics I
Fall, Winter, Summer. 3(3-0)
200 and 201 or 210.

321. Macroeconomics II
Fall, Winter, Spring, Summer. 3(3-0)
320.
Expansion of role of monetary factors in macroeconomic theory. Theories of economic growth and cycles. Study of macroeconomic problems of inflation, unemployment, and other current policy problems.

324. Microeconomics I
Fall, Winter, Spring, Summer. 3(3-0)
200 and 201, or 210.
Theory of production and cost. Theory of the firm under varying market structures.

325. Microeconomics II
Fall, Winter, Spring, Summer. 3(3-0)
200 and 201, or 210, and 324.

330. Investments and Security Markets
Fall, Spring. 3(3-0) 200 or 210, Juniors.
The stock market; principles of investment; analysis of selected industries and corporations; regulation by the Securities and Exchange Commission.

337. American Social and Economic History: Foundations
Winter. 4(4-0) Juniors. Interdepartmental and administered by the History Department.
Multiple sources of economic growth in economic, social and political change, education, science and technology, political action, and other factors, mid-19th century.

338. American Social and Economic History: Modern Trends
Spring. 4(4-0) Juniors. Interdepartmental and administered by the History Department.
Urbanization, origins and implications of large-scale organizations in business and other sectors of society, and sources of economic growth since mid-19th century.

361. Economic Development of Asia
Fall. 3(3-0) 200 and 201 or 210.
Population and resources; comparison of three economic systems: Communism in China, free enterprise in Japan and socialism in India; the role of Japan in regional trade and development.

362. Economic Development of Latin America
Winter. 3(3-0) 200 and 201 or 210.
Conceptualization of political and economic power as related to income distribution, tax structures, agrarian reform; inflation; trade, exchange rates, integration; population and employment policy.