251. Plant and Animal Genetics Laboratory
Spring. 1(0-2) Approval of school.

301. Forage Crops
(201.) Fall. 3(2-2) Sophomores. Distribution, morphology, 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 390 or BOT 501. Interrelationships of physiological processes and environmental manipulation for higher yield of agricultural plants.

402. Principles of Weed Control
Fall, Winter, Spring. Interdepartmental 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
Spring. 3(3-0) Practical methods of crop improvement, seed production, storing, cleaning, packing, and distribution, seed certification of small grains, legumes, corn, beans, potatoes, vetches to seed agencies and seed farms.

507. Special Crop Problems
Fall, Winter, Spring, Summer. 1 to 3 credits. May re-enroll for a maximum of 6 credits. Approval of department. Independent comprehensive study of some area of crop science.

508. Principles of Plant Breeding
Spring. 4(3-2) 290. Interdepartmental and administered jointly with the Horticulture Department. Application of genetics and other sciences to breeding and improvement of agronomic and horticultural crops.

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

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
(912.) Spring. 3(3-2) 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)

501. Crop Ecology
Fall. 3(3-0) Approval of department.
999. Research
Fall, Winter, Spring, Summer. Variable credit.

DAIRY SCIENCE
College of Agriculture and Natural Resources

214. Dairy Production
Fall, Spring. 4(3-2)

323. Dairy Cattle Judging
Spring. 3(0-6)
Desired type in dairy cattle. Judging and showing procedures. Competitive judging. Teams selected to represent Michigan State University in national competition.

371. Dairy Seminar
(471) 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 of ideas.

413. Dairy Farm Management
Spring. 3(2-2)
Analysis of dairy farm organization and operations. Dairy herd management practices. Dairy cattle housing with emphasis on economical and efficient usage. Use of dairy records in the farm operation.

424. Dairy Cattle Breeding
Spring. 4(2-4) ANS 461.
Applications of population genetics to improving dairy cattle. Use of selection, aids to selection, and systems of mating to formulate breeding plans. Inheritance of economic traits. Breed improvement programs.

433. Dairy Cattle Nutrition
Winter. 4(3-2) ANS 325.
Principles of rumen nutrition and application to actual feeding practices in commercial dairy herds. Rumen fermentation as related to feed utilization, milk production and milk composition.

444. Milk Secretion
Winter. 4(3-2) Interdepartmental and administered jointly with the Physiology Department.

445. Endocrinology and Reproduction of Farm Animals
Fall. 4(3-3) PSL 240. Interdepartmental and administered jointly with the Physiology Department.
Endocrine and reproductive systems are presented with emphasis upon characteristics which can be altered for economic benefit and upon causes, prevention, and treatment of endocrine abnormalities.

460. Special Problems
Fall, Winter, Spring, Summer. Variable credit. May re-enroll for a maximum of 10 credits. Approval of department.

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

556. Topics in Dairy Science
Fall, Winter, Spring. Variable credit.
May re-enroll for credit. Approval of department.
Topics from breeding, management, nutrition, or physiology, changing from term to term to include recent technical advances.

599. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

999. Research
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

EARTH SCIENCE

ECONOMICS
College of Business

Courses are classified as follows:

- Labor Economics and Industrial Relations—305, 455, 456, 457.
- Money and Banking—318, 322, 330.
- International Economics—427.
- Public Finance—406, 407, 408.
- Price and Value Theory—324, 325, 426.
- History of Economic Thought—421, 422.
- Industrial Organization and Control—444, 445, 446, 448.

200. Introduction to Economics
Fall, Winter, Spring, Summer. 4(4-0)
Open to Freshmen. Students may begin sequence with either 200 or 201.

201. Introduction to Economics
Fall, Winter, Spring, Summer. 4(4-0)
Open to Freshmen. Students may begin sequence with either 200 or 201.

210. Fundamentals of Economics
Fall, Winter. 4(4-0) MTH 215 or 226; or concurrently. Students may not earn credit in 210 if they have credit in either 200 or 201.

251H. Households, Firms and Markets
Fall. 5(5-0) Honors College students.

Microeconomic theory and its applications to analysis and policy. Substitutes for 201, 324 and 325.

252H. Aggregative Economics and Public Policy
Fall, Winter. 5(5-0) Honors College students.

305. Industrial Relations and Trade Unionism
Fall, Winter, Spring, Summer. 5(5-0)
Development, aims, structure, and functions of labor and employer organizations. Their relation to economic, political, and legal institutions and their impact on society. Primary issues in collective bargaining.

318. Money, Credit and Banking
Fall, Winter, Spring, Summer. 4(4-0) 200 or 210.
Commercial banking and the money supply. The Federal Reserve System, the Treasury, and other financial institutions. Sources and uses of funds in the financial market.

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

321. Macroeconomics II
Fall, Winter, Spring, Summer. 3(3-0) 210.
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 by varying market structures.

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