920. Design and Analysis of Agronomic Experiments Spring. 3(3-4) 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, BOT 525, or approval of department. Interdepartmental with the Department of Horticulture. Application of cytogenetic principles to plant breeding. Significance of recombinant, role of induced mutations, polyploidy, chromosome substitution, and aneuploid analyses as they apply to the field of plant breeding.

952. Plant Breeding Biometrics Winter of even-numbered years. 4(3-2) 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. Doctoral Dissertation Research Fall, Winter, Spring, Summer. Variable credit.

DAIRY SCIENCE

College of Agriculture and Natural Resources


314. Dairy Herdsman Techniques Winter. 2(0-4) DRY 214, majors only. Herd health and management procedures, disease prevention and detection, equipment maintenance and record systems for dairy herds.

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. 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.

413. Dairy Farm Management Spring. 3(2-2) Analysis of dairy farm organization and operations. Dairy herd management practices. Dairy 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 361. 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.


445. Endocrinology and Reproductive Physiology Fall. 4(3-0) PSL. 240. Interdepartmental and administered jointly with the Department of Physiology. Processes of reproduction and endocrinology with special emphasis on anatomy of reproductive systems, folliculogenesis, gametogenesis, reproductive cycle, fertilization, sex determination, gestation and artificial regulation of these reproductive events for economic benefit.

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

IDC. The Impact of Animal Resource Management Upon the World's Developing Nations For course description, see Interdisciplinary Courses.

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

799. Master's Thesis Research Fall, Winter, Spring, Summer. Variable credit. Approval of department.

925. Advanced Ruminant Nutrition Fall of even-numbered years. 4(4-0) BCH 452, PSL 501 or approval of department. Microbiology, physiology and biochemistry of ruminant digestion and the absorption and metabolism of rumen fermentation products.

945. Physiology of Mammalian Reproduction Winter. 4(5-0) DRY 445 or PSL 445 or approval of department. Interdepartmental with the Department of Physiology. Chemistry and biosynthesis of reproductive hormones. Gonadal, hypothalamic and pituitary development of reproductive potential. Ovulation, fertilization, implantation and placentation will be studied. Relationships of conceptus, uterus and corpus luteum. Parturition.

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

EARTH SCIENCE

See Geology.

ECONOMICS

EC

College of Business

Courses are classified as follows:

Labor Economics and Industrial Relations—305, 455, 156, 457.
Money and Banking—315, 330, 470.
International Economics—427.
Public Finance—406, 407, 408.
Price and Value Theory—324, 325, 426.
History of Economic Thought—421, 422.

200. Introduction to Economics Fall, Winter, Spring. Summer. 4(4-0) Open to Freshmen. Students may begin sequence with either EC 200 or EC 201. Problem of unemployment, meaning and determination of national income; the multiplier; the accelerator; fiscal policy; deficit spending, monetary policy; bank creation of money; international aspects of the employment problem.

201. Introduction to Economics Fall, Winter, Spring. Summer. 4(4-0) Open to Freshmen. Students may begin sequence with either EC 200 or EC 201. Problem of resource allocation, price determination (demand, supply), application to agricultural policy; diminishing returns; behavior of the firm (determination of quantity of output, pricing of factors, aspects of international trade.

210. Fundamentals of Economics Fall. Winter. 4(4-0) MTH 215 or MTH 229, or concurrently. Students may not earn credit in EC 210 if they have credit in either EC 200 or EC 201. Introductory course in economic theory, employing mathematics, where useful, as a tool analysis. Covers consumer and business behavior, markets and the price system, income distribution, and elements of employment theory.

IDC. Introduction to Latin America III For course description, see Interdisciplinary Courses.

251H. Household, Firms and Markets Fall. 5(5-0) Honors College students. Microeconomic theory and its applications to analysis and policy. Substitutes for EC 201, EC 324, and EC 325.


305. Industrial Relations and Trade Unionism Fall, Winter, Spring. 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) 
EC 200 or EC 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) 
EC 200 and EC 201 or EC 210. 

321. Macroeconomics II  
Fall, Winter, Spring, Summer. 3(3-0) 
EC 200. 
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) 
EC 200 and EC 201, or EC 210. 
Theory of production and cost. Theory of the firm under varying market structures. 

325. Microeconomics II  
Fall, Winter, Spring, Summer. 3(3-0) 
EC 200 and EC 201, or EC 210, and EC 224. 

330. Investments and Security Markets  
Fall, Spring. 3(3-0) EC 200 or EC 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) Interdepartmental with and administered by the Department of History. 
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) Interdepartmental with and administered by the Department of History. 
Urbanization, origins and implications of largescale 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) EC 200 and EC 201 or EC 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) EC 200 and EC 201 or EC 210. 
Concentration of political and economic power as related to income distribution, tax structures, agrarian reform; inflation, trade, exchange rates, integration; population and employment policy. 

363. Economic Development of Tropical Africa  
Spring. 3(3-0) EC 200 and EC 201 or EC 210. Interdepartmental with Public Affairs Management. 

371A. European Economic History to 1500  
Fall. 4(4-0) Interdepartmental with and administered by the Department of History. 
Economic history of medieval and early modern Europe stressing the nature of agrarian societies, the growth of cities, the divergence of the European economies, and the Industrial Revolution in England. 

371B. European Economic History after 1500  
Winter. 4(4-0) Interdepartmental with and administered by the Department of History. 
The industrialization of Europe stressing urbanization, national rivalry, problems of the maturation of capitalist institutions, and the social and ecological impact of economic growth in the twentieth century. 

400. Independent Study  
Fall, Winter, Spring, Summer. 1 to 4 credits. Seniors or approval of department. 
Research and reading course for students interested in doing independent work in economics. 

406. Public Expenditure: Theory and Policy  
Fall, Spring. 4(4-0) EC 201 or EC 210. Interdepartmental with Public Affairs Management. 
Expenditure theory: objectives and rationale of government activity in the market system; efficiency criteria in government decision-making: planning-programming-budgeting systems and cost-benefit analysis. 

407. Public Revenues  
Winter. 4(4-0) EC 201 or EC 210. 
Principles and theory of the distribution of tax burdens and the incidence of taxation. Income, sales, property, and other major revenue sources. 

409. State and Local Finance  
Spring. 4(4-0) Juniors. 
Fiscal problems at the state and local levels of government, including revenues, expenditures, borrowing, and intergovernmental fiscal relations. 

410. Medical Economics  
Spring. 3(3-0) EC 200, EC 201, or approval of department. Interdepartmental with the Department or Urban and Metropolitan Studies. 
Demand, supply and economic efficiency in the markets for health services. Demand for medical care, organization forms, methods of payment, utilization and cost, and public policy for health care. 

412. The Economics of Poverty  
Winter. 3(3-0) EC 200, EC 201. Interdepartmental with the Department of Urban and Metropolitan Studies. 

413. Urban Economics (386)  
Fall. 4(4-0) EC 200, EC 201. Interdepartmental with the Department of Urban and Metropolitan Studies. 
Location theory and urban development. Economics of city size and urban-suburban conflict. Economic aspects of certain community problems like housing, transportation, welfare and poverty. Strategies for urban development. 

417. Land Economics  
Fall, Spring. 4(4-0) Interdepartmental with the Department of Resource Development, Public Affairs Management and Food Systems Economics and Management and administered by the Department of Resource Development. Factors affecting man's economic use of land and space resources. Input-output relationships; development, investment, and enterprise location decisions. Land markets; property rights, area planning; zoning and land use controls. 

421. Economic Thought I  
Fall, Summer. 4(4-0) EC 200 and EC 201, or EC 210. 
Forers and classics of economics. Development of classical economic thought from Adam Smith to J. S. Mill. The socialist reaction. 

422. Economic Thought II  
Winter, Spring. 4(4-0) EC 200 and EC 201, or EC 210. 
The decline of classical economics and the rise of marginalist value and distribution theory. Marxism and institutionalism. 

426. Introductory Mathematical Economics  
Spring. 3(3-0) EC 320, EC 334; MTH 214. 
Mathematical analysis of production, cost, and consumer choice. Mathematical models of aggregate and general-equilibrium economic systems. 

427. International Trade and Finance  
Fall, Winter, Spring. 4(4-0) EC 200 and EC 201, or EC 210. 

430. Stagnation and Development in Emerging Societies  
Winter, Summer. 4(4-0) EC 200 and EC 201, or EC 210. 
Obstacles to economic growth, theories of economic development, reorganizing agriculture and industry; problems in mobilizing the economy to accommodate new productive techniques; population problems. 

431. Principal Issues in Promoting Economic Development  
Spring. 4(4-0) EC 430. 
Structural change and growth, capital formation and investment criteria; financing development; foreign trade and finance in development; government and planning.
434. Comparative Economic Systems
Fall, Winter, Summer. 4(4-0) EC 200 and EC 201, or EC 210.
Characteristics and functions of an economic system. Analysis of alternative patterns of economic control, planning and market structure. Experiences under capitalism, socialism and mixed economies. Consideration of their theories and philosophies.

440. Radical Political Economy
Spring. 3(3-0) EC 200 and EC 201, or EC 210, or EC 251H and EC 252H.
Development and contemporary characteristics of capitalism from Marxian-radical perspective. Historical materialism and class analysis. A radical critique of modern economics. Relationship of inequality, racism, alienation and other problems to the structure of capitalism.

444. Private Enterprise and Public Policy
Fall, Winter, Spring, Summer. 3(3-0) EC 201 or EC 210.
Competition and monopoly in the American economy. Problems of antitrust.

445. Economics of Regulated Industries
Winter. 4(4-0) EC 444.
Government policy and role of competition in the public utility and transportation industries.

451. Methods of Economic Research and Forecasting
Spring. 4(4-0) EC 320 and EC 334; STT 422 or STT 317.
Research design, testing of economic hypotheses, elementary methods of projection, forecasting, estimation, and introduction to econometrics.

453. Women and Work: Issues and Policy Analysis
Winter. 3(3-0) EAM 201 or EC 200 or EC 201 or approval of department. Interdepartmental with and administered by Public Affairs Management.
Quantitative and qualitative analysis of labor force participation by women, current status and past trends. Issues analyzed include differential earnings and occupations of men and women, employment discrimination and labor legislation.

455. Public Policy and Labor Relations
Fall, Winter, Spring, Summer. 3(3-0) EC 305.
Evolution of public policy concerning trade unions and collective bargaining. Causes and effects of labor-management disputes; public and private methods and agencies for dispute settlement.

456. Economics of Social Security
Spring. 3(3-0) EC 305 or Seniors.

457. Manpower Economics
Fall, Winter, Summer. 5(5-0) EC 200 and EC 201, or EC 210.

460. Regional Economics
Winter. 4(4-0) RD 417 or EC 324 or FSM 401. Interdepartmental with the Department of Resource Development, Public Affairs Management and Food Systems Economics and Management and administration by the Department of Resource Development.
Forces affecting location decisions of firms, households and governments. Applications to agricultural, industrial, and regional developments.

461. Regional Economics Laboratory
Spring. 1(0-2) RD 460 and approval of department. Interdepartmental with the Department of Resource Development, Public Affairs Management and Food Systems Management. Administered by the Department of Resource Development.
Evaluation and use of analytical models designed to solve regional economic problems.

463. Economics of Urban Education
Spring. 3(3-0) EC 201 or EC 210. Interdepartmental with and administered by the Department of Urban and Metropolitan Studies.
Political economy of urban schools. Education as a commodity: efficient production and distribution, supply and demand for education, financing education, planning education to meet job needs and social mobility.

470. Monetary Theory
Fall. 3(3-0) EC 321.
Relationship between money and interest rates, prices and output.

480. Mathematics for Economists
Fall. 3(3-0) MTH 113, graduate status in either economics, agricultural economics or College of Business, or approval of department. Interdepartmental with and administered by the Department of Mathematics.

800. Economic Analysis I
Fall, Winter. 4(4-0) EC 324.
Consumer choice and production.

801. Economic Analysis II
Winter, Spring. 4(4-0) EC 800.
The Firm. Market behavior and price formation (competition, monopoly and mixed cases). Distribution.

802. Economic Analysis III
Spring, Summer. 4(4-0)
Comparative statics analysis of macroeconomic problems.

10. Seminar in Industrial Relations
For course description, see Interdisciplinary Courses.

806A. Public Expenditures
Fall. 3(3-0) Approval of department.

806B. Public Revenues
Winter. 3(3-0) Approval of department.
Theory of taxation. Incidence and economic effects, especially on income and wealth redistribution. Institutional and policy analysis of the U.S. federal tax system.

806C. State and Local Public Finance
Spring. 3(3-0) Approval of department.
State and local expenditure systems in theory and practice; tax and nontax revenues; intergovernmental fiscal relationships, the fiscal problems of metropolitan governments.

810. Economics of Public Choice
Winter. 3(3-0) Approval of department. Interdepartmental with the departments of Agricultural Economics and Resource Development and administered by the Department of Agricultural Economics.
Economics of alternative institutions for collective action. Emphasis on property rights and natural resources. Public goods, externalities non-marginal change, commonwealth, income and power distribution, grants, welfare criteria and market failure.

811. Public Program Analysis
Spring, Summer of odd-numbered years. 3(3-0) FSM 401 or EC 324 or approval of department. Interdepartmental with the departments of Resource Development and Agricultural Economics and administered by the Department of Agricultural Economics.
Application of benefit-cost analysis to public programs of resources development. Issues and case studies in budgeting, investment criteria, pricing, externalities, and coordination.

812A. Microeconomics I: Choice and Exchange
Fall. 3(3-0) EC 324, EC 325; EC 480 or MTH 215 or concurrently.
Consumption and production; the axiomatics of choices, involving time, introduction to welfare.

812B. Microeconomics II: Production and Distribution
Winter. 3(3-0) EC 812A
Production--variable proportions, the multiproduct firm, programming analysis. Distribution--the micro theory.

812C. Microeconomics III: The Firm and Market
Spring. 3(3-0) EC 812B.
Theories of the firm. Market behavior--perfect and imperfect markets. Game theory.

813A. Macroeconomics I: Comparative Statics
Fall. 3(3-0) EC 320, EC 321; EC 480 or MTH 215 or concurrently.
Macro models and macro function; the interaction of macro markets.

813B. Macroeconomics II: Dynamics
Winter. 3(3-0) EC 812A.
Stochastic and dynamic models. Growth and technical change. The macro theory of distribution.

813C. General Equilibrium and Welfare
Spring. 3(3-0) EC 813B; EC 812C or concurrently.
The disaggregated general equilibrium system. Input-output economics. Welfare.
815. Labor Force Behavior
Winter. 4(4-0) LIR 809, EC 457 or approval of department. Interdepartmental with the School of Labor and Industrial Relations.

Theoretical and empirical analysis of factors affecting labor force participation rates, unemployment levels, employment distribution, hours of work, and labor mobility. Concepts and measurement methods.

818A. Monetary Theory
Fall. 3(3-0) EC 812C, EC 813C, and EC 835 and approval of department.

Monetary and interest theories.

818B. The Theory of Monetary Policy
Winter. 3(3-0) EC 818A or approval of department.

Theories of the transmission of monetary policy to output, employment and prices.

818C. Problems in Monetary Policy
Spring. 3(3-0) EC 818B.

Goals and techniques of monetary policy.

821A. Competition and Monopoly in American Industry
Fall. 3(3-0) Approval of department.

Examination of structure, behavior, and performance in industries.

821B. Government Policy Toward Private Enterprise
Winter. 3(3-0) Approval of department.

Evolution of government policy with respect to such problems as conspiracy, monopoly, mergers, unfair practices, and discrimination. Economic and legal appraisal of policy alternatives.

826A. Theory of International Trade
Fall. 3(3-0) EC 427 or approval of department.

Classical and modern theories of international trade. Application of modern techniques of economic analysis to international trade theory.

831. Mathematical Economics I
Fall of even-numbered years. 3(3-0)
EC 812; MTH 214, MTH 334.


832. Mathematical Economics II
Winter of odd-numbered years. 3(3-0)
EC 813; MTH 215, MTH 334.

Mathematical models of growth and fluctuations dealing with macroeconomics, monetary theory, fiscal policy. The cobweb, static and dynamic multipliers, multiplier-accelerator models, trade cycle models. Relations among stocks, flows and time lags.

833. Mathematical Programming
Spring. 3(3-0) EC 800; or EC 812A; MTH 334. Interdepartmental with the Department of Agricultural Economics.

Linear programming. Theory of linear economic models. Topics in nonlinear programming.

841A. History of Economic Thought: Classical
Fall. 3(3-0)

Early thought, mercantilism, physiocracy, and classical economics.

841B. History of Economic Thought: Heterodox
Winter. 3(3-0)

Historicism, socialism, and institutionalism.

841C. History of Economic Thought: Modern
Spring. 3(3-0)

Development of marginalism, general equilibrium theory, employment theory, and mathematical economics.

850. The Development of Economic Institutions
Fall. 3(3-0) EC 430 or approval of department.


851. The Economics of Secular Change
Winter. 3(3-0) EC 320, EC 324, or approval of department.

Empirical studies of longrun economic trends and a consideration of alternative hypotheses explaining these trends including classical Marxism, Harrod-Domar, and other general theories of economic development. Population growth, technological change, capital formation, occupational distribution, urbanization, and international trade.

852. Economic Problems of Underdeveloped Areas
Spring. 3(3-0) EC 320, EC 324, or approval of department.

Overcoming problems relating to early stages of economic development, investment priorities, mobilizing savings, balance of payment considerations, and policies and programs of various types.

854. The Emergence of Commercial Capitalism
Winter of odd-numbered years. 3(3-0)
EC 318, EC 324. Interdepartmental with the Department of History.

The rise of the mercantilist economics of Europe with stress on the growth of internal and international trade and finance during the 16th and 17th centuries.

855. The Industrial Revolution in Europe
Winter of even-numbered years. 3(3-0)
EC 318, EC 324. Interdepartmental with the Department of History.

The preconditions that led to the momentous changes in agriculture and industry in Europe from 1700-1814.

857. Wage Theory
Fall. 3(3-0) EC 320, EC 324, or approval of department. Interdepartmental with the School of Labor and Industrial Relations.

Advanced analysis of theories of wage determination, labor market research, economic effects of collective bargaining upon the national wage structure, output, employment, distribution of national income, the price level; nature and effects of government wage policies.

858. Collective Bargaining
Fall, Winter, Spring. 3(3-0) or 333 or approval of department. Open to graduate students in economics and related fields such as labor and industrial relations, psychology, sociology, anthropology, political science, business, history. Interdepartmental with the approval of the Department of History.

Problems and issues in the administration and negotiation of collective bargaining agreements; includes both economic and noneconomic aspects of industrial relations policies and practices.

860. Economics of the Firm
Fall, Winter, Summer. 4(4-0) Graduate students in Business Administration. Not open to Economics majors.

Analysis of the firm. Problems facing management; economizing in use of resources, optimal combinations of products, pricing, competitive forces in markets affecting the firm.

861. American Economy
Fall, Winter, Spring. 4(4-0)

Thirty credits in MBA core program. Not open to Economics and Agricultural Economics majors.


862. Business and Public Policy
Winter. 4(4-0) EC 560 or approval of department. Not open to majors.

876. Statistical Inference in Economics I
Fall, 3(0-0) EC 812A or EC 801, STT 443 or STT 853, or approval of department. Interdepartmental with the departments of Agricultural Economics, and Statistics and Probability. Review and extension of single-equation regression models. Properties of least-squares estimators under alternative specifications. Problems of analyzing nonexperimental data. Errors in variables, autoregressive and heteroscedastic models.

877. Statistical Inference in Economics II

878. Statistical Inference in Economics III
Spring, 3(3-0) EC 877 or approval of department. Interdepartmental with the Department of Management. Organization and technique in choice and implementation of economic (especially planning, programming) functions of political authority.

880. Organization and Control in the Political Economy: Institutions and Theory
Winter of even-numbered years, 4(4-0) Interdepartmental with the Department of Management. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.

881. Organization and Control in the Political Economy: Selected Problems
Winter of odd-numbered years, 4(4-0) Approval of department. Interdepartmental with the Department of Management. Introduction to the process of guiding high school students to careers in agriculture and natural resources.

890. Industrial Organization and Public Policy Workshop
Fall, Winter, Spring, 3 to 16 credits. Approval of department. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.

890B. Industrial Organization and Public Policy Workshop
Fall, Winter, Spring, 3 to 16 credits. Approval of department. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.

900. Mathematical Economics and Econometrics Workshop
Fall, Winter, Summer, 3 to 16 credits. EC 812A, EC 832, or approval of department. Interdepartmental with the Department of Agricultural Economics. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.

990B. Doctoral Dissertation Research
Fall, Winter, Spring, Summer, Variable credit. Approval of department.

EDUCATION

College of Education

101A. Exploring Elementary Teaching
Fall, Winter, Spring. 3(4-0) Preclusion major. Emphasis on the nature of teaching in the elementary school achieved through field experience while serving as a teacher aide in an elementary classroom. Concurrent lecture sessions focus on techniques of classroom management and operation.

1235. Program in Nutrition and Health Education: Food Science Education
Fall, Winter, Summer. 4(3-0) Approval of department. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.

1245. Career Planning in Agriculture and Natural Resources for Secondary School Students
Fall, Winter, Spring. 3(3-0) Credits earned in this course are included in computation of GPA and MAPS but are not included in the 180 credits required for graduation.

Fall, Winter, Spring. 3(3-0) Credits earned in this course are included in computation of GPA and MAPS but are not included in the 180 credits required for graduation.

141A. General Industrial Arts
Winter and Fall of odd-numbered years, Spring of even-numbered years. 3(0-6) Approval of department. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.

141B. General Woodwork
Winter and Fall of odd-numbered years, Spring of even-numbered years. 3(0-6) Approval of department. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.

141B. General Woodwork
Winter and Fall of odd-numbered years, Spring of even-numbered years. 3(0-6) Approval of department. Critical evaluation of research reports by staff and other students. Students writing doctoral dissertations in the appropriate areas are encouraged to participate in workshop and may do so while registered for EC 999.