Crop and Soil Sciences—CSS

850  Soil Chemistry
Spring. 3(3-3) R: Open only to graduate students in College of Agriculture and Natural Resources, College of Engineering, or College of Natural Science.

Ion activities, ionic exchange and equilibrium reactions. Soil pH, macro- and micronutrients, saline soils and availability of nutrients to plants.

853  Plant Mineral Nutrition
Fall of odd years. 3(3-0) Interdepartmental with Horticulture. RB: (BOT 301)


856  Plant Molecular Biology
Spring. 3(3-0) Interdepartmental with Plant Biology; Biochemistry and Molecular Biology. Administered by Department of Plant Biology. RB: (ZOL 341) SA: BOT 856

Recent advances in genetics and molecular biology of higher plants.

863  Mineral-Water Interactions
Fall of even years. 4(3-2) Interdepartmental with Geological Sciences. Administered by Department of Geological Sciences. R: Open only to graduate students in Crop and Soil Sciences or Geological Sciences or Geography.

Mineralogy, petrology and geochemistry of fluid-rock reactions in geologic, sedimentary and geochemical cycles. Rock and mineral weathering, soil formation, genesis and burial diagenesis of sediments and sedimentary rocks, and metamorphism.

865  Organic Chemistry of Soils
Spring of odd years. 2(2-0)

Chemistry of natural and anthropogenic organic substances in soils.

870  Techniques of Analyzing Unbalanced Research Data
Spring. 4(4-0) Interdepartmental with Animal Science; Forestry; Fisheries and Wildlife; Horticulture. Administered by Department of Animal Science. RB: (STT 464) R: Open only to graduate students in the College of Agriculture and Natural Resources. SA: ANS 943 Not open to students with credit in ANS 943.

Linear model techniques to analyze biological research data characterized by missing and unequal number of observations in classes. Simultaneous consideration of multiple factors. Prediction of breeding values and estimation of population parameters from variance and covariance components.

880  Scientific Communication and Professional Development
Spring. 10(1-2)

Interactive professional experiences including grant-preparation, oral presentation, mock position interviews, and resume preparation.

890  Independent Study
Fall, Spring. Summer. 1 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in College of Agriculture and Natural Resources, College of Engineering, or College of Natural Science.

Individual study on field, laboratory, or library research.

891  Current Topics in Ecology and Evolution
Summer. 1 credit. Summer: Given only at W.K. Kellogg Biological Station. A student may earn a maximum of 8 credits in all enrollments for this course. Interdepartmental with Zoology; Plant Biology. Administered by Department of Zoology.

Presentation and critical evaluation of theoretical and empirical developments by visiting scientists.

891B Selected Topics in Plant Breeding and Genetics
Fall, Spring, Summer. 1 to 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Horticulture; Forestry. Administered by Department of Horticulture. R: Open only to graduate students in Plant Breeding and Genetics. Approval of department.

Selected topics in plant breeding.

892  Plant Breeding and Genetics Seminar
Fall, Spring, Summer. 1(1-0) A student may earn a maximum of 8 credits in all enrollments for this course. Interdepartmental with Horticulture; Forestry. Administered by Department of Horticulture.

Experience in review, organization, oral presentation, and analysis of research.

893  Selected Topics
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to graduate students in College of Agriculture and Natural Resources, College of Engineering, or College of Natural Science.

Selected topics in crop and soil sciences of current interest and importance.

899  Master’s Thesis Research
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to master’s students in Crop and Soil Sciences.

Master’s thesis research.

921  Contemporary Statistical Models in Biology
Fall of odd years. 3(3-0) RB: (STT 465) or approval of department. Working knowledge of SAS software.


941  Quantitative Genetics in Plant Breeding
Spring of even years. 3(2-2) Interdepartmental with Forestry; Horticulture. RB: (CSS 819 and STT 464)

Theoretical and genetic basis of statistical analysis of quantitative traits using genetic markers. Computational tools for the study of quantitative traits.

999  Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in Crop and Soil Sciences.

Doctoral dissertation research.

EARTH SCIENCE  ES

Department of Geological Sciences
College of Natural Science

880  Special Problems in Earth Science
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department.

Individual faculty directed study on topics in earth science.

ECONOMICS  EC

Department of Economics
College of Social Science

201  Introduction to Microeconomics
Fall, Spring. Summer. 3(3-0) Not open to students with credit in EC 251H.


202  Introduction to Macroeconomics
Fall, Spring. Summer. 3(3-0) Not open to students with credit in EC 252H.

210  Economics Principles Using Calculus
Fall. 3(3-0) P/M: (MTH 133 or MTH 153H or MTH 126) Not open to students with credit in EC 201 or EC 202.

251H  Microeconomics and Public Policy
Fall, Spring. 4(4-0) Not open to students with credit in EC 301.

Theories of consumer behavior, production and cost. Output and price determination in competition and monopolies. Welfare economics, general equilibrium, externalities, and public goods.

252H  Macroeconomics and Public Policy
Fall, Spring. 3(3-0) P/M: (EC 201 and EC 301) or (EC 251H) Not open to students with credit in EC 302.

Theory of national income, unemployment, inflation and economic growth and its application to economic analysis and policy.
335 Taxes, Government Spending and Public Policy
Fall, Spring, Summer. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H) Not open to students with credit in EC 435 or EC 436.
Economics of the public sector. Public goods, externalities, design and incidence of the tax system. Equity and efficiency effects of government programs.

340 Survey of International Economics
Fall, Spring, Summer. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H) Not open to students with credit in EC 440 or EC 441.

360 Private Enterprise and Public Policy
Fall, Spring, Summer. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H) R: Approval of department.
Effects of antrust, economic regulation, and other public policies on competition, monopoly, and other market problems in the United States economy.

380 Labor Relations and Labor Market Policy
Fall, Spring, Summer. 3(3-0) P: M (EC 201 or EC 251H) R: Approval of department.

391 Special Topics in Economics
Fall, Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. P: M (EC 301 or EC 351H)
Special topics supplementing regular course offerings.

401 Advanced Microeconomics
Fall, Spring. 3(3-0) P: M (EC 301 or EC 251H)
Economics of uncertainty and incomplete information. Game theory and theories of oligopoly. Transaction costs. Advanced topics in welfare economics, general equilibrium, externalities, and public goods.

402 Advanced Macroeconomics
Fall, Spring. 3(3-0) P: M (EC 251H or EC 301) and (EC 252H or EC 302)
Consumption, investment, and monetary theories. The role of expectations. Theories of economic growth and cycles. Stabilization policies.

405 The Development of the American Economy
Spring. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H)
Causality and consequences of American economic development. Economic analysis of topics such as British trade policies, slavery, industrialization, immigration, the Great Depression, wars and income distribution.

406 Economic Analysis of Russia and the Commonwealth of Independent States
Spring of even years. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H)
Analysis of structure and performance of planning, transition economy, and post-transition economy in Russia and the Commonwealth of independent states (CIS) with focus on macro foundations of macroeconomic outcomes.

410 Issues in the Economics of Developing Countries
Fall. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H)
Topics in development economics, such as growth, technological change, structural transformation, poverty and inequality, investment in human resources, trade, international capital flows and the political economy of policy formation and governance.

412 Economic Analysis of Latin America
Fall of even years. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H)

413 Economic Analysis of Asia
Spring of odd years. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H)
Development of agriculture, industry, labor markets, and trade in some of the following: India and South Asia, China, the Pacific Rim countries, and Japan. Productivity, income distribution, finance, and planning.

414 Economic Analysis of Sub-Saharan Africa
Fall of odd years. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H)
African economic development in historical perspective. Contemporary development issues including agricultural policies, industrial development, foreign trade and aid, human resource investments, AIDS, and the political economy of economic and political policies and reforms.

420 Introduction to Econometric Methods
Fall, Spring. 3(3-0) P: M (EC 201 or EC 251H) and (EC 202 or EC 252H) and (STAT 315 or STAT 421 or STAT 430 or STAT 441) and (MATH 124 or MATH 132 or MATH 152H)

421 Advanced Econometric Methods
Fall, Spring. 3(3-0) P: M (EC 420) Panel data methods, instrumental variables, limited dependent variables, time series analysis, and other advanced topics.

425 Law and Economics
Fall. 3(3-0) Interdepartmental with Finance. P: M (EC 201 or EC 251H)
Application of economic analysis to the law. Property rights, takings, the Coase Theorem. The economics of regulation, crime and punishments, liability law, and public choice.
Economics—EC

435 Public Expenditures
Fall: 3(3-0) P.M: (EC 251H or EC 301)
Expenditure theory. Objectives and rationale of
government activity in the market system. Efficiency
criteria in government decision-making. Public choice.
Cost benefit analysis.

436 Public Revenues
Spring: 3(3-0) P.M: (EC 251H or EC 301)
Principles and theory of efficiency and the incidence of
taxation. Income and sales taxes and other major
revenue sources.

440 International Trade
Fall: 3(3-0) P.M: (EC 251H or EC 301)
Neoclassical and modern theories regarding trade
patterns and commercial policies. Applications of
theory to United States policy. Contemporary issues
involving international trade of goods, services, and
productive factors.

441 International Finance
Spring: 3(3-0) P.M: (EC 252H or EC 302)
Neoclassical and modern theories pertaining to
balance of payments and exchange rate determina-
tion. Macroeconomic performance under alternative
exchange rate regimes. Contemporary issues in-
volving international monetary arrangements.

453 Women and Work: Issues and Policy
Analysis
Spring: 3(3-0) Interdepartmental with
Environmental Economics and Policy: Women's
Studies. Administered by Department of Ag-
cultural Economics. RB: (EC 201 or EC
202 or EEP 201 or concurrently) R: Not
open to freshmen or sophomores.
Current and past quantity and quality of women's participation in the labor force. Gender differentials in
earnings and occupations. Employment discrimi-
nation. Laws, especially affirmative action laws.
Social policy effects. International issues.

460 American Industry: Structure and
Behavior
Fall, Spring: 3(3-0) P.M: (EC 251H or EC
301)
Market structure and performance. Empirical analy-
sis of market definition, concentration, product dif-
ferrentiation, vertical integration, innovativeness,
collusion, and entry deterrence.

480 Analysis of Labor Markets
Fall, Spring: 3(3-0) P.M: (EC 251H or EC
301) and (EC 201 or EC 251H)
Labor supply and demand. Human capital, search,
migration, and labor turnover. Analysis of unem-
ployment and wage growth. Structure of wages,
including economics of discrimination.

489 Senior Seminar for Policy and Applied
Economics Majors (W)
Fall: 3(3-0) P.M: (EC 251H or EC 301)
and (EC 320) and completion of Tier I writing re-
quirement. R: Open only to seniors in the
Policy and Applied Economics major.
Capstone course for policy and applied economics
majors. Reading and discussion concerning se-
lected economics topics. Preparation and presenta-
tion of student research project.

490 Independent Study
Fall, Spring, Summer. 1 to 3 credits. A stu-
dent may earn a maximum of 3 credits in all
enrollments for this course. R: Approval of
department.
Research and reading course for students interested in
doing independent work in economics under faculty supervision.

491 Advanced Topics in Economics
Fall, Spring. 3(3-0) A student may earn a
maximum of 9 credits in all enrollments for
this course. P.M: (EC 301 or EC 251H) and
(EC 302 or EC 252H) and (MTH 124 or
MTH 132 or MTH 152H) R: Approval of de-
partment.
Advanced work in specialized topics of economics.

495 Economics of Poverty and Income
Distribution
Fall: 3(3-0) P.M: (EC 201 or EC 251H)
Theory of the distribution of income and wealth.
Concepts and measurement of welfare. Definitions of poverty. Effects of public and private programs on
the poor.

498 Economics of Health Care
Fall of odd years. 3(3-0) RB: (EC 201 or EC
251H)
Economic factors in determining health care costs,
utilization, quality, and efficiency. Demand and
insurance. Comparative health care systems. Public
policy issues.

499 Senior Seminar for Economics
Majors (W)
Fall, Spring. 3(3-0) P.M: (EC 251H or EC
301) and (EC 320) and completion of Tier I writing re-
quirement. R: Open only to seniors in Eco-
nomics.
Capstone course for economics majors. Reading and
discussion concerning selected economics topics. Preparation and presentation of student research project.

801 Mathematical Applications in Economics
Fall: 3(3-0) RB: (MTH 124 or MTH 132) R:
Open only to master's students in Econom-
ics. Open only to graduate students in the Department of Agricultural Economics and
doctoral students in the Business Admini-
stration major or approval of department.
Applications of mathematical tools in economic analysis. Matrix algebra, derivatives, partial deriva-
tives, optimization, integration and linear differential equations.

805 Microeconomic Analysis
Fall: 3(3-0) R: Open only to master's stu-
dents in Economics. Open only to graduate
students in the Department of Agricultural Economics and doctoral students in the Business Admini-
stration major or approval of department. Not open to students with credit in EC 812A.
Microeconomic theory with calculus. Production,
costs, demand, markets, general equilibrium and
welfare theory.

807 Applied Microeconomic Analysis
Spring: 3(3-0) P.M: (EC 805)
Applications of microeconomic theory taken from
public finance, labor economics, international trade,
and industrial organization.

809 Macroeconomic Analysis
Spring: 3(3-0) P.M: (EC 801) Not open to
students with credit in EC 813A.
Closed- and open-economy macroeconomic theory
with calculus. Inflation, unemployment, growth, business cycles, consumption, investment, and
money demand. Policy debates and macroeconomic forecasting.

810 Institutional and Behavioral Economics
Fall: 3(3-0) Interdepartmental with Agricul-
tural Economics; Resource Development.
Administered by Department of Agricultural Economics.
Relationships among institutions, individual and
collective actions, and economic performance.
Public choice, property rights, and behavioral theo-
ries of firms and bureaucracies.

811A Mathematical Applications in Economics
Fall: 2(2-0) R: Open only to Ph.D. students
in Economics, the Department of Agricul-
tural Economics, and the Business Admini-
stration major or approval of department. C:
EC 812A concurrently.
Applications of mathematical tools in economic analysis for Ph.D. students. Matrix algebra, deriva-
tives, partial derivatives, optimization, integration and
linear differential equations.

811B The Structure of Economic Analysis
Fall: 2(2-0) P.M: (EC 811A) SA: EC 811 C:
EC 813B concurrently.
Static and dynamic decision models in economics.
Concepts of equilibrium, stability, comparative statics
duality.

812A Microeconomics I
Fall: 3(3-0) C: EC 811A concurrently.
Consumption theory, including choice under uncer-
tainty. Theory of production in perfectly competitive markets. General equilibrium in the presence of
perfect competition. Efficiency properties of competi-
tive equilibria.

812B Microeconomics II
Spring: 3(3-0) P.M: (EC 812A)
Introduction to social choice. Market failure, includ-
ing externalities, public goods, imperfect information
and market power.

813A Macroeconomics I
Fall: 3(3-0) R: Open only to Ph.D. students
in Economics, the Department of Agricul-
tural Economics, and the Business Admini-
stration major or approval of department.
Static and dynamic macroeconomic models. Search
asset pricing, new classical theories of business
cycles and growth. Rational expectations and the
government budget constraint.

813B Macroeconomics II
Spring: 3(3-0) P.M: (EC 813A) C: EC 811B
concurrently.
New classical theories of business cycles and growth.
Theories of price and wage rigidities, search, imperfect competition, and credit rationing in
macroeconomic models. Asset pricing.

815 Economic Thought I
Fall. 3(3-0)
Ancient, scholastic, and mercantilist economic
thought. Origins and development of classical politi-
cal economy. Socialist and Romantic reactions to classicism.
816 Economic Thought II
Spring. 3(3-0)


818 Introduction to Econometrics
Spring. 3(3-0) Interdepartmental with Agricultural Economics; Statistics and Probability. P:M: (EC 801 and STT 430) R: Not open to Economics Ph.D. students; SA: EC 620


819 Economic Role of Government
Spring. 3(3-0)

The legal system and legal foundations of economic structure and performance. Property rights, the taking issue, and compensation.

820A Econometrics IA
Fall. 3(3-0) Interdepartmental with Statistics and Probability. RB: Multivariate Calculus R: Open only to Ph.D. students in Economics, in the Department of Agricultural Economics, and the Business Administration major or approval of department.

Statistical tools for econometrics. Applications of statistical tools including probability distributions, estimation, hypothesis testing, and maximum likelihood to econometric problems.

820B Econometrics IB
Fall. 3(3-0) P:M: (EC 811A and EC 820A)


821 Econometrics II
Fall. 3(3-0) Interdepartmental with Agricultural Economics; Statistics and Probability. P:M: (EC 820A and EC 820B)


822 Econometrics III
Spring. 3(3-0) Interdepartmental with Agricultural Economics; Statistics and Probability. P:M: (EC 820A and EC 820B)

Dynamic models and time series data. ARMA models. ARCH models. Unit roots, cointegration and error correction. Rational expectations models.

823 Applied Econometrics
Fall. 3(3-0) P:M: (EC 820A and EC 820B) or (STT 430 and EC 818)

Problems of estimating models and testing hypotheses from economic theory. Applications of various econometric models to economic problems and policy analysis.

824 Advanced Topics in Econometrics
Spring of even years. 3(3-0) P:M: (EC 820A and EC 820B and EC 621 and EC 822) R: Open only to Ph.D. students in Economics or approval of department.

Advanced study in a specialized topic in econometrics.

827 Economic Forecasting
Spring. 2(2-0) P:M: (MBA 814) R: Open only to MBA students.


829 The Economics of Environmental Resources
Fall. 3(3-0) Interdepartmental with Agricultural Economics; Forestry; Park, Recreation and Tourism Resources; Resource Development. Administered by Department of Agricultural Economics.

Economic principles related to environmental conflicts and public policy alternatives. Applications to water quality, land use, conservation, development, and global environmental issues.

830 Advanced Macroeconomics and Monetary Theory
Fall. 3(3-0) P:M: (EC 812B and EC 813B)


831 Problems in Monetary Theory and Policy
Spring. 3(3-0) P:M: (EC 809 or EC 813A) and (EC 820A and EC 820B)

Surveys several topics on macroeconomics with a strong applied emphasis.

835 Public Expenditures
Fall. 3(3-0) P:M: (EC 805 or EC 812A)

Allocative and distributional effects of public expenditure. Public goods and externalities. Selected topics in public expenditure analysis such as cost-benefit analysis, fiscal federalism, mechanism design, public choice, general equilibrium models.

836 Public Revenues
Spring. 3(3-0) P:M: (EC 805 or EC 812A)


840 International Trade: Theory and Commercial Policy
Fall. 3(3-0) P:M: (EC 805 or EC 812A)

Commodity composition of trade. Welfare and distributional effects of measures such as tariffs, quotas, and export subsidies. International economic policy. Regional and multilateral trade policy.

841 Exchange Rates and Capital Flows
Spring. 3(3-0) P:M: (EC 805 and EC 809) or (EC 812A and EC 813A)


843 Advanced Topics in International Trade
Spring. 3(3-0) P:M: (EC 812A and EC 812B and EC 840)

Selected topics in international trade.

844 Open Economy Macroeconomics
Fall. 3(3-0) P:M: (EC 811A and EC 813B)


850 Growth, Development, and Human Resources
Fall. 3(3-0) P:M: (EC 805 or EC 812A)

Theoretical and empirical models of the microeconomics of development, focusing on household and individual behavior related to investment in human resources and its consequences.

851 Microeconomics in Develop
Spring. 3(3-0) P:M: (EC 805 and EC 809) or (EC 812A and EC 813A)

Theoretical and empirical models of the microeconomics of development, focusing on land, labor, credit and insurance markets. Analysis of household and individual responses to risk, dynamic decisions with respect to savings, consumption and labor supply, and models of learning. EC 851 is designed to be a continuation of EC 850.

860 Market Structure and Behavior
Fall. 3(3-0) P:M: (EC 805 or EC 812A)

The consequences of concentration and entry conditions. Theory of the firm as it relates to size, scope, integration, motivation. Static market behavior. Antitrust treatment of cartels and mergers.

861 Dynamic Market Behavior and Performance
Spring. 3(3-0) P:M: (EC 805 or EC 812A)


880 Labor Economics I
Fall. 3(3-0) P:M: (EC 805 or EC 812A) and (EC 820A and EC 820B) or (STT 430 and EC 818)

Labor supply and measurement of the labor force. Labor demand. Mobility, turnover, and migration. Equalizing wage differentials. Trade union growth, goals, bargaining and effects.

881 Labor Economics II
Spring. 3(3-0) P:M: (EC 805 or EC 812A) and (EC 820A and EC 820B) or (STT 430 and EC 818)


895 Graduate Reading in Economics
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Faculty guided research projects.

911 Strategic Behavior in Economic Environments
Fall. 3(3-0) P:M: (EC 812B)

Topics in cooperative and non-cooperative game theory. Applications include: oligopoly and bargaining theories, strategic voting and principal agent models, endogenous coalition formation, signalling, strategic trade, and auctions theories.

912 Risk, Uncertainty and Information
Spring. 3(3-0) P:M: (EC 812A and EC 812B) RB: (EC 812A)

Effects of risk in economic environments. Topics include: expected utility theory, risk aversion, stochastic dominance, mean-variance models, state preference models, general equilibrium models with risk, information theory.
**ECONOMICS—EC**

- **Advanced Environmental and Resource Economics**
  Fall. 3(3-0) Interdepartmental with Agricultural Economics; Forestry; Recreation and Tourism Resources. Administered by Department of Agricultural Economics. RB: (AEC 829 and EC 812A) Advanced economic theory of environmental management and policy. Treatment of externalities and market and non-market approaches to environmental improvement. Topics in conservation and sustainable economic growth. Applications to research and policy.

- **Advanced Natural Resource Economics**
  Spring. 3(3-0) Interdepartmental with Agricultural Economics; Forestry; Resource Development; Park, Recreation and Tourism Resources. Administered by Department of Agricultural Economics. RB: (EC 812A and AEC 829 and FOR 886) SA: AEC 991H
  Economic theory of managing nonrenewable and renewable resources, including optimal use, the incentives for use under decentralized markets, and public policy design. Analysis of the co-evolution of economic and ecological systems.

- **Research Seminar in Applied Economics**
  Spring. 3(3-0) R: Open only to Ph.D. students in Economics. Current research topics in applied economics.

- **Research Seminar in Economic Theory**
  Spring. 3(3-0) R: Open only to Ph.D. students in Economics. Current research topics in economic theory.

- **Research Seminar in Econometrics**
  Spring. 3(3-0) R: Open only to Ph.D. students in Economics. Current research topics in econometrics.

- **Advanced Topics in Economics**
  Fall of odd years. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. RB: (EC 811A and EC 811B and EC 812A and EC 812B and EC 813A and EC 813B and EC 820A and EC 820B) R: Open only to Ph.D. students in Economics or approval of department. Advanced work in a specialized topic in economics.

- **Doctoral Dissertation Research**
  Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to Ph.D. students in Economics. Doctoral dissertation research.

**EDUCATIONAL ADMINISTRATION**

**Department of Educational Administration**

**College of Education**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Type</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>315</td>
<td>Student Leadership Training</td>
<td>Fall, Spring</td>
<td>3(2-2)</td>
<td></td>
</tr>
<tr>
<td>800</td>
<td>Organization Theory in Education</td>
<td>Fall, Spring, Summer</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>801</td>
<td>Leadership and Organizational Development</td>
<td>Spring</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>802</td>
<td>Building a Learning Organization</td>
<td>Spring</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>803</td>
<td>Planning, Budgeting, and Evaluation</td>
<td>Fall, Spring, Summer</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>804</td>
<td>Administration of Human Resources in Education</td>
<td>Fall, Summer</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>805</td>
<td>Administration in Higher Education</td>
<td>Fall</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>806</td>
<td>Learning Leadership and Organizational Analysis I</td>
<td>Fall</td>
<td>3(3-0)</td>
<td>R: Open only to graduate students in K-12 Educational Administration. Leadership of K-12 schools and associated community organizations. Theory and skills needed to discern organizational dynamics of schools and community. Professional ethics of K-12 school leadership and governance of higher education institutions to other non-profit organizations. Methods of reflection and applications of multiple theories to cases of practice.</td>
</tr>
<tr>
<td>807</td>
<td>Learning Leadership and Organizational Analysis II</td>
<td>Spring, 2(2-0)</td>
<td>P:M: (EAD 806) R: Open only to graduate students in K-12 Educational Administration. Data-based organizational analysis of K-12 schools and school-community relations. Leadership skills to define vision strategies. Case analysis and double-loop learning.</td>
<td></td>
</tr>
<tr>
<td>809</td>
<td>Interpersonal Dimensions of Leadership</td>
<td>Spring, Summer</td>
<td>1(1-0)</td>
<td>P:M: (EAD 806 and EAD 807 and EAD 808) RB: (EAD 820 and EAD 821) R: Open only to graduate students in K-12 Educational Administration. Assessment of different approaches to school leadership. School leader as reflective practitioner and effective communicator in school and community contexts.</td>
</tr>
<tr>
<td>810</td>
<td>Use of Technology in School Administration</td>
<td>Fall</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>813</td>
<td>Education, Development and Social Change</td>
<td>Spring of odd years</td>
<td>3(3-0)</td>
<td>Interdepartmental with Teacher Education. Rise of modern systems of education in developed and developing countries. Education, the state, and national development. Colonial heritage, linkages, and globalization of educational development.</td>
</tr>
<tr>
<td>820</td>
<td>Internship in Educational Administration I</td>
<td>Fall, Spring</td>
<td>1 to 3 credits</td>
<td>A student may earn a maximum of 9 credits in all enrollments for this course. R: Open only to graduate students in K-12 Educational Administration. Supervised internship in an educational institution focused on school leadership issues.</td>
</tr>
<tr>
<td>821</td>
<td>Internship in Educational Administration II</td>
<td>Spring, Summer</td>
<td>1 to 3 credits</td>
<td>R: Open only to graduate students in K-12 Educational Administration. Supervised internship in an educational and/or community organization focused on school-community leadership issues.</td>
</tr>
<tr>
<td>845</td>
<td>Teaching, Learning, and School Restructuring</td>
<td>Spring</td>
<td>3(3-0)</td>
<td></td>
</tr>
<tr>
<td>850</td>
<td>Issues and Strategies in Multicultural Education</td>
<td>Spring</td>
<td>3(3-0)</td>
<td>Historical, pedagogical, and administrative considerations of multicultural education in K-16 educational settings.</td>
</tr>
<tr>
<td>852A</td>
<td>Elementary and Middle School Administration</td>
<td>Fall, Summer</td>
<td>3(3-0)</td>
<td>Administration and supervision of elementary and middle schools. Alternative organizational arrangements, curricula, and practices. Problems and strategies for improving K-8 education.</td>
</tr>
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