Twin Cities Campus

Business Research M.S.

Curtis L. Carlson School of Management - Adm

Curtis L. Carlson School of Management

Link to a list of faculty for this program.

Contact Information:
Business Administration PhD Program, Suite 4-205, 321-19th Avenue South, Minneapolis, MN 55455 (Phone: 612-624-0875; Fax: 612-624-8221)
Email: csom-phd@umn.edu
Website: https://carlsonschool.umn.edu/degrees/phd

- Program Type: Master's
- Requirements for this program are current for Fall 2022
- Length of program in credits: 40 to 44
- This program does not require summer semesters for timely completion.
- Degree: Master of Science

Along with the program-specific requirements listed below, please read the General Information section of the catalog website for requirements that apply to all major fields.

The business research MS is a terminal master's degree option restricted to eligible business administration PhD students who do not complete the doctoral degree. Applications to the business research MS are not otherwise considered.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Prerequisites for Admission

The preferred undergraduate GPA for admittance to the program is 3.00.

Other requirements to be completed before admission:
Applicants must be current business administration PhD students who have completed all required core, concentration, and supporting coursework for the doctoral degree. The preliminary written examination must have been passed at the master's level, based on a set of criteria approved by the Carlson School PhD Committee comprising members from all seven areas of concentration.

Applicants must submit their test score(s) from the following:

- GRE
- GMAT
  - Total score: 650

International applicants must submit score(s) from one of the following tests:

- TOEFL
  - Internet Based - Total Score: 100
- IELTS
  - Total Score: 7

Key to test abbreviations(GRE, GMAT, TOEFL, IELTS).

For an online application or for more information about graduate education admissions, see the General Information section of the catalog website.

Program Requirements

Plan C: Plan C requires 24 to 28 major credits and 16 credits outside the major.The is no final exam.

This program may be completed with a minor.

Use of 4xxx courses towards program requirements is not permitted.

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A minimum GPA of 3.3 is required for students to remain in good standing.

At least 4 semesters must be completed before filing a Degree Program Form.

Areas of Concentration
Students select one of seven areas of concentration. Concentration areas may require a first-year examination/presentation in addition to other program requirements.

Accounting (40 credits)
Students pursuing the accounting concentration must work under one of two accounting research paradigms: analytic or empirical.
Required Accounting Coursework (24 credits)
Take the following 24 credits:
ACCT 8801 - Topics in Empirical Research I (2.0 cr)
ACCT 8802 - Topics in Empirical Research II (2.0 cr)
ACCT 8803 - Topics in Empirical Research III (2.0 cr)
ACCT 8811 - Topics in Information Economics I (2.0 cr)
ACCT 8812 - Topics in Information Economics II (2.0 cr)
ACCT 8813 - Topics in Information Economics III (2.0 cr)
ACCT 8821 - Topics in Capital Markets I (2.0 cr)
ACCT 8822 - Topics in Capital Markets II (2.0 cr)
ACCT 8823 - Topics in Capital Markets III (2.0 cr)
ACCT 8831 - Topics in Analytical Research I (2.0 cr)
ACCT 8832 - Analytical Research Topics II (2.0 cr)
ACCT 8833 - Topics in Analytical Research III (2.0 cr)
Supporting/Methodology Coursework (16 credits)
Courses must be chosen in consultation with the advisor or PhD coordinator. Suggested coursework is listed below.
ACCT 8892 - Readings in Accounting (1.0 - 8.0 cr)
ACCT 8894 - Research in Accounting (1.0 - 8.0 cr)
APEC 8001 - Applied Microeconomic Analysis of Consumer Choice and Consumer Demand (2.0 cr)
APEC 8002 - Applied Microeconomic Analysis of Production and Choice Under Uncertainty (2.0 cr)
APEC 8003 - Applied Microeconomic Analysis of Game Theory and Information (2.0 cr)
APEC 8004 - Applied Microeconomic Analysis of Social Choice and Welfare (2.0 cr)
APEC 8211 - Econometric Analysis I (2.0 cr)
APEC 8212 - Econometric Analysis II (2.0 cr)
CSOM 8101 - Methods and Topics in Applied Economics (2.0 - 4.0 cr)
ECON 8003 - Microeconomic Analysis (2.0 cr)
ECON 8004 - Microeconomic Analysis (2.0 cr)
ECON 8205 - Applied Econometrics (2.0 cr)
FINA 8802 - Theory of Capital Markets I: Discrete Time (2.0 cr)
FINA 8812 - Corporate Finance I (2.0 cr)
FINA 8813 - Corporate Finance II (2.0 cr)
FINA 8822 - Empirical Methods in Finance (2.0 cr)
FINA 8823 - Empirical Corporate Finance (2.0 cr)
MATH 4603 - Advanced Calculus I (4.0 cr)
MATH 4604 - Advanced Calculus II (4.0 cr)
MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)
PUBH 6325 - Data Processing with PC-SAS (1.0 cr)
STAT 5102 - Theory of Statistics II (4.0 cr)
STAT 8101 - Theory of Statistics 1 (3.0 cr)

-OR-

Finance (44 credits)
Finance is viewed as a subfield of economics. Students achieve a strong foundation in economic theory and empirical methods.
Required Finance Coursework (20 credits)
Take at least 20 credits from the following list. FINA 8810, 8820, and 8890 may be taken more than once.
FINA 8802 - Theory of Capital Markets I: Discrete Time (2.0 cr)
FINA 8803 - Theory of Capital Markets II: Continuous Time (2.0 cr)
FINA 8804 - Advanced Continuous Time Finance (2.0 cr)
FINA 8810 - Topics in Asset Pricing (2.0 cr)
FINA 8812 - Corporate Finance I (2.0 cr)
FINA 8813 - Corporate Finance II (2.0 cr)
FINA 8820 - Topics in Corporate Finance (2.0 cr)
FINA 8822 - Empirical Methods in Finance (2.0 cr)
FINA 8823 - Empirical Corporate Finance (2.0 cr)
FINA 8890 - Seminar: Finance Topics (2.0 - 4.0 cr)
Additional Required Finance Coursework (8 credits)

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Take the following sequence of economics courses:
ECON 8101 - Microeconomic Theory (2.0 cr)
ECON 8102 - Microeconomic Theory (2.0 cr)
ECON 8103 - Microeconomic Theory (2.0 cr)
ECON 8104 - Microeconomic Theory (2.0 cr)

Supporting/Methodology Coursework (16 credits)

Courses must be chosen in consultation with the advisor or PhD coordinator. Other courses may be selected with advisor or PhD coordinator approval.
ACCT 8812 - Topics in Information Economics II (2.0 cr)
ACCT 8831 - Topics in Analytical Research I (2.0 cr)
ACCT 8832 - Analytical Research Topics II (2.0 cr)
APEC 8211 - Econometric Analysis I (2.0 cr)
APEC 8212 - Econometric Analysis II (2.0 cr)
ECON 8003 - Microeconomic Analysis (2.0 cr)
ECON 8004 - Microeconomic Analysis (2.0 cr)
ECON 8105 - Macroeconomic Theory (2.0 cr)
ECON 8106 - Macroeconomic Theory (2.0 cr)
ECON 8107 - Macroeconomic Theory (2.0 cr)
ECON 8108 - Macroeconomic Theory (2.0 cr)
ECON 8181 - Advanced Topics in Microeconomics (2.0 cr)
ECON 8182 - Advanced Topics in Microeconomics (2.0 cr)
ECON 8185 - Advanced Topics in Macroeconomics (2.0 cr)
ECON 8191 - Workshop in Mathematical Economics (1.0 cr)
ECON 8201 - Econometric Analysis (2.0 cr)
ECON 8205 - Applied Econometrics (2.0 cr)
ECON 8206 - Applied Econometrics (2.0 cr)
ECON 8207 - Applied Econometrics (2.0 cr)
ECON 8208 - Applied Econometrics (2.0 cr)
ECON 8211 - Econometrics (2.0 cr)
ECON 8212 - Econometrics (2.0 cr)
ECON 8501 - Wages and Employment (2.0 cr)
ECON 8601 - Industrial Organization and Government Regulation (2.0 cr)
ECON 8602 - Industrial Organization and Government Regulation (2.0 cr)
ECON 8701 - Monetary Economics (2.0 cr)
ECON 8702 - Monetary Economics (2.0 cr)
ECON 8704 - Financial Economics (2.0 cr)
ECON 8705 - Financial Economics (2.0 cr)
FINA 8892 - Independent Study in Finance (1.0 - 8.0 cr)
FINA 8894 - Directed Research in Finance (1.0 - 8.0 cr)
MATH 8601 - Real Analysis (3.0 cr)

-OR-

Information and Decision Sciences (41 credits)

Required IDSc Coursework (15 credits)

Take all of the following courses:
IDSC 8511 - Conceptual Topics and Research Methods in Information and Decision Sciences (3.0 cr)
IDSC 8521 - System Development (3.0 cr)
IDSC 8531 - Organizational Theory and Research in Information Systems (3.0 cr)
IDSC 8541 - Introduction to Economics of Information Systems (3.0 cr)
IDSC 8721 - Behavioral Decision Theory (3.0 cr)

Additional IDSC Required Coursework (2 credits)

Take a minimum of 2 credits from the following. 8801 may be repeated.
IDSC 8620 - Data Mining and Personalization (3.0 cr)
IDSC 8631 - Emerging Technologies: Artificial Intelligence, Blockchain, & Virtual Reality (2.0 cr)
IDSC 8801 - Research Seminar in Information and Decision Sciences (2.0 cr)

Methodology Coursework (8 credits)

Take at least 8 credits in research mthodology from the following:
APEC 8001 - Applied Microeconomic Analysis of Consumer Choice and Consumer Demand (2.0 cr)
APEC 8002 - Applied Microeconomic Analysis of Production and Choice Under Uncertainty (2.0 cr)
APEC 8003 - Applied Microeconomic Analysis of Game Theory and Information (2.0 cr)
APEC 8206 - Dynamic Optimization: Applications in Economics and Management (3.0 cr)
APEC 8211 - Econometric Analysis I (2.0 cr)
APEC 8212 - Econometric Analysis II (2.0 cr)
CI 8149 - Qualitative Research: Coding, Analysis, Interpretation, and Writing (3.0 cr)
CSCI 5511 - Artificial Intelligence I (3.0 cr)
CSCI 5512 - Artificial Intelligence II (3.0 cr)

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CSCI 5521 - Machine Learning Fundamentals (3.0 cr)
CSCI 5523 - Introduction to Data Mining (3.0 cr)
CSCI 5551 - Introduction to Intelligent Robotic Systems (3.0 cr)
CSOM 8101 - Methods and Topics in Applied Economics (2.0 - 4.0 cr)
ECON 8581 - Advanced Topics in Labor Economics (2.0 cr)
EPSY 5244 - Survey Design, Sampling, and Implementation (3.0 cr)
EPSY 8252 - Statistical Methods in Education II (3.0 cr)
EPSY 8264 - Advanced Multiple Regression Analysis (3.0 cr)
EPSY 8267 - Applied Multivariate Analysis (3.0 cr)
EPSY 8268 - Hierarchical Linear Modeling in Educational Research (3.0 cr)
JOUR 8500 - Seminar: Advanced Methods Special Topics (3.0 cr)
MABA 6441 - Causal Inference via Econometrics and Experimentation (2.0 cr)
MKTG 8809 - Consumer Behavior Research Methods (2.0 cr)
MKTG 8842 - Quantitative Modeling I (2.0 cr)
OLPD 5056 - Case Studies for Policy Research (3.0 cr)
OLPD 5061 - Ethnographic Research Methods (3.0 cr)
PA 8302 - Applied Policy Analysis (4.0 cr)
PSY 5018H - Mathematical Models of Human Behavior (3.0 cr)
PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
PSY 5993 - Research Laboratory in Psychology (3.0 cr)
PUBH 6636 - Qualitative Research Methods in Public Health Practice (2.0 cr)
PUBH 6810 - Survey Research Methods (3.0 cr)
PUBH 6815 - Community-based Participatory Research (2.0 cr)
PUBH 7430 - Statistical Methods for Correlated Data (3.0 cr)
PUBH 7440 - Introduction to Bayesian Analysis (3.0 cr)
PUBH 8432 - Probability Models for Biostatistics (3.0 cr)
PUBH 8442 - Bayesian Decision Theory and Data Analysis (3.0 cr)
PUBH 8804 - Advanced Quantitative Methods Seminar (3.0 cr)
SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)
SOC 8811 - Advanced Social Statistics (4.0 cr)
STAT 8101 - Theory of Statistics 1 (3.0 cr)

Supporting Field Coursework (16 credits)

Courses must be chosen in consultation with the advisor or PhD coordinator.
Take 16 or more credit(s) from the following:

•APEC 8001 - Applied Microeconomic Analysis of Consumer Choice and Consumer Demand (2.0 cr)
•APEC 8002 - Applied Microeconomic Analysis of Production and Choice Under Uncertainty (2.0 cr)
•APEC 8003 - Applied Microeconomic Analysis of Game Theory and Information (2.0 cr)
•APEC 8206 - Dynamic Optimization: Applications in Economics and Management (3.0 cr)
•APEC 8211 - Econometric Analysis I (2.0 cr)
•APEC 8212 - Econometric Analysis II (2.0 cr)
•CSCI 5125 - Collaborative and Social Computing (3.0 cr)
•CSCI 5980 - Special Topics in Computer Science (1.0 - 3.0 cr)
•CSCI 8551 - Intelligent Agents (3.0 cr)
•CSCI 8980 - Special Advanced Topics in Computer Science (1.0 - 3.0 cr)
•CSOM 8101 - Methods and Topics in Applied Economics (2.0 - 4.0 cr)
•ECON 8581 - Advanced Topics in Labor Economics (2.0 cr)
•ECON 8601 - Industrial Organization and Government Regulation (2.0 cr)
•ECON 8602 - Industrial Organization and Government Regulation (2.0 cr)
•EPSY 8252 - Statistical Methods in Education II (3.0 cr)
•EPSY 8264 - Advanced Multiple Regression Analysis (3.0 cr)
•EPSY 8267 - Applied Multivariate Analysis (3.0 cr)
•EPSY 8268 - Hierarchical Linear Modeling in Educational Research (3.0 cr)
•HRIR 8820 - Seminar: Special Topics in Work and Organizations Research (2.0 cr)
•IDSC 8892 - Readings in Information and Decision Sciences (1.0 - 8.0 cr)
•IDSC 8894 - Graduate Research in Information and Decision Sciences (1.0 - 8.0 cr)
•MGMT 8101 - PhD Seminar: Theory Building (2.0 cr)
•MGMT 8104 - PhD Seminar: Research Design (2.0 cr)
•MGMT 8302 - Seminar in Organizational Theory (4.0 cr)
•MKTG 8842 - Quantitative Modeling I (2.0 cr)
•PA 8302 - Applied Policy Analysis (4.0 cr)
•PSY 5018H - Mathematical Models of Human Behavior (3.0 cr)
•PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
•PSY 5993 - Research Laboratory in Psychology (3.0 cr)
•PSY 8201 - Social Cognition (3.0 cr)
•PSY 8960 - Graduate Seminar in Psychology (1.0 - 4.0 cr)
•PUBH 7430 - Statistical Methods for Correlated Data (3.0 cr)

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•PUBH 7440 - Introduction to Bayesian Analysis (3.0 cr)
•PUBH 8432 - Probability Models for Biostatistics (3.0 cr)
•PUBH 8442 - Bayesian Decision Theory and Data Analysis (3.0 cr)
•PUBH 8804 - Advanced Quantitative Methods Seminar (3.0 cr)
•SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)
•SOC 8811 - Advanced Social Statistics (4.0 cr)
•STAT 8101 - Theory of Statistics 1 (3.0 cr)

-OR-

Marketing (40 credits)

Students pursuing the marketing concentration choose one of two focus areas: consumer behavior or quantitative/ marketing strategy.

Consumer Behavior Concentration (24 credits)

Take at least 16 credits of consumer behavior seminars from the list below. Mktg 8810 can be repeated. In addition, take at least 8 credits from the quantitative/marketing strategy concentration course list.

Take 16 or more credit(s) from the following:

•MKTG 8809 - Consumer Behavior Research Methods (2.0 cr)
•MKTG 8810 - Consumer Behavior Special Topics (2.0 cr)
•MKTG 8811 - Consumer Attitudes and Persuasion I (2.0 cr)
•MKTG 8812 - Consumer Attitudes and Persuasion II (2.0 cr)
•MKTG 8813 - Consumer Judgment and Decision Making I (2.0 cr)
•MKTG 8814 - Decisions Making, Emotions and Unconscious Processes (2.0 cr)

or **Quantitative/Marketing Strategy Concentration (24 credits)**

Take at least 14 credits of quantitative/marketing strategy seminars from the list below. Mktg 8890 can be repeated. In addition, take at least 10 credits from the consumer behavior concentration course list.

Take 14 or more credit(s) from the following:

•MKTG 8831 - Seminar: Inter-Organizational Relations (4.0 cr)
•MKTG 8842 - Quantitative Modeling I (2.0 cr)
•MKTG 8843 - Empirical Quantitative Models (4.0 cr)
•MKTG 8851 - Seminar: Marketing Management and Strategy I (2.0 cr)
•MKTG 8852 - Marketing Management & Strategy II (2.0 cr)
•MKTG 8890 - Seminar: Marketing Topics (1.0 - 4.0 cr)

Supporting/Methodology Coursework (16 credits)

Courses must be chosen in consultation with the advisor or PhD coordinator. Suggested courses are listed below.

ACCT 8811 - Topics in Information Economics I (2.0 cr)
ACCT 8831 - Topics in Analytical Research I (2.0 cr)
APEC 8211 - Econometric Analysis I (2.0 cr)
APEC 8212 - Econometric Analysis II (2.0 cr)
CSOM 8101 - Methods and Topics in Applied Economics (2.0 - 4.0 cr)
ECON 8003 - Microeconomic Analysis (2.0 cr)
ECON 8004 - Microeconomic Analysis (2.0 cr)
ECON 8101 - Microeconomic Theory (2.0 cr)
ECON 8102 - Microeconomic Theory (2.0 cr)
ECON 8103 - Microeconomic Theory (2.0 cr)
ECON 8104 - Microeconomic Theory (2.0 cr)
ECON 8118 - Noncooperative Game Theory (2.0 cr)
ECON 8119 - Cooperative Game Theory (2.0 cr)
ECON 8191 - Workshop in Mathematical Economics (1.0 cr)
ECON 8205 - Applied Econometrics (2.0 cr)
ECON 8206 - Applied Econometrics (2.0 cr)
ECON 8207 - Applied Econometrics (2.0 cr)
ECON 8208 - Applied Econometrics (2.0 cr)
ECON 8211 - Econometrics (2.0 cr)
ECON 8212 - Econometrics (2.0 cr)
ECON 8601 - Industrial Organization and Government Regulation (2.0 cr)
ECON 8602 - Industrial Organization and Government Regulation (2.0 cr)
ECON 8603 - Industrial Organization and Government Regulation (2.0 cr)
EPSY 5221 - Principles of Educational and Psychological Measurement (3.0 cr)
EPSY 5245 - Advanced Survey Data Analysis for Categorical and Rating Scale Data (1.0 cr)
EPSY 5261 - Introductory Statistical Methods (3.0 cr)
EPSY 5262 - Intermediate Statistical Methods (3.0 cr)
EPSY 8251 - Statistical Methods in Education I (3.0 cr)
EPSY 8252 - Statistical Methods in Education II (3.0 cr)
EPSY 8264 - Advanced Multiple Regression Analysis (3.0 cr)
EPSY 8267 - Applied Multivariate Analysis (3.0 cr)
IDSC 8721 - Behavioral Decision Theory (3.0 cr)

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MKTG 8892 - Readings in Marketing (1.0 - 8.0 cr)
MKTG 8894 - Graduate Research in Marketing (1.0 - 8.0 cr)
MSBA 6441 - Causal Inference via Econometrics and Experimentation (3.0 cr)
PSY 5202 - Attitudes and Social Behavior (3.0 cr)
PSY 5204 - Psychology of Interpersonal Relationships (3.0 cr)
PSY 5207 - Personality and Social Behavior (3.0 cr)
PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)
PSY 8203 - Impression Management (3.0 cr)
PSY 8208 - Social Psychology: The Self (3.0 cr)
PSY 8209 - Research Methods in Social Psychology (3.0 cr)
PSY 8935 - Readings in Behavioral Genetics and Individual Differences Psychology (1.0 cr)
PSY 8960 - Graduate Seminar in Psychology (1.0 - 4.0 cr)
STAT 5021 - Statistical Analysis (4.0 cr)
STAT 5303 - Designing Experiments (4.0 cr)

-OR-

Strategic Management and Entrepreneurship (40 credits)
Students focus on leadership, strategy, and entrepreneurship connecting the external worlds of competition and collaboration.
Required SME Coursework (16 credits)
Take the following courses:
CSOM 8101 - Methods and Topics in Applied Economics (2.0 - 4.0 cr)
MGMT 8102 - Research Methods I - Applied Empirical Methods (2.0 cr)
MGMT 8302 - Seminar in Organizational Theory (4.0 cr)
MGMT 8401 - Strategy I (2.0 cr)
MGMT 8403 - Strategy II (2.0 cr)
MGMT 8501 - Seminar in Entrepreneurship (4.0 cr)
SME Elective Coursework (8 credits)
Take at least 8 credits of SME electives from the list below.
MGMT 8101 - PhD Seminar: Theory Building (2.0 cr)
MGMT 8104 - PhD Seminar: Research Design (2.0 cr)
MGMT 8202 - Seminar in International Management (2.0 cr)
MGMT 8402 - Seminar in Behavioral Strategy (2.0 cr)
MGMT 8404 - Seminar in Non-Market Strategy (2.0 cr)
MGMT 8405 - Seminar in Technology Strategy (2.0 cr)
Supporting /Methodology Coursework (16 credits)
Take a minimum of 16 credits of supporting field/methodology coursework. APEC 8211 (2 cr), APEC 8212 (2 cr)and GRAD 8101 (3 cr) are required. Take an additional 9 credits minimum from the list below.
APEC 8211 - Econometric Analysis I (2.0 cr)
APEC 8212 - Econometric Analysis II (2.0 cr)
GRAD 8101 - Teaching in Higher Education (3.0 cr)
Additional Supporting/Methodology Coursework (9 credits)
Take 9 or more credit(s) from the following:
•APEC 8001 - Applied Microeconomic Analysis of Consumer Choice and Consumer Demand (2.0 cr)
•APEC 8002 - Applied Microeconomic Analysis of Production and Choice Under Uncertainty (2.0 cr)
•APEC 8003 - Applied Microeconomic Analysis of Game Theory and Information (2.0 cr)
•APEC 8004 - Applied Microeconomic Analysis of Social Choice and Welfare (2.0 cr)
•APEC 8213 - Econometric Analysis III (2.0 cr)
•CSCI 5980 - Special Topics in Computer Science (1.0 - 3.0 cr)
•EPSY 8251 - Statistical Methods in Education I (3.0 cr)
•EPSY 8252 - Statistical Methods in Education II (3.0 cr)
•EPSY 8264 - Advanced Multiple Regression Analysis (3.0 cr)
•EPSY 8268 - Hierarchical Linear Modeling in Educational Research (3.0 cr)
•FINA 8823 - Empirical Corporate Finance (2.0 cr)
•HINF 5502 - Python Programming Essentials for the Health Sciences (1.0 cr)
•MATH 5651 - Basic Theory of Probability and Statistics (4.0 cr)
•MGMT 8892 - Readings in Management Theory and Administration (1.0 - 8.0 cr)
•MGMT 8894 - Graduate Research in Management Theory and Administration (1.0 - 8.0 cr)
•MKTG 8831 - Seminar: Inter-Organizational Relations (4.0 cr)
•PA 8302 - Applied Policy Analysis (4.0 cr)
•POL 8106 - Quantitative Political Science I (3.0 cr)
•PUBH 8804 - Advanced Quantitative Methods Seminar (3.0 cr)
•PUBH 8811 - Research Methods in Health Care (3.0 cr)
•SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)
•SOC 8701 - Sociological Theory (4.0 cr)
•SOC 8721 - Social Psychology: Micro-Sociological Approaches to Inequalities and Identities (3.0 cr)
•SOC 8735 - Sociology of Culture (3.0 cr)

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•SOC 8801 - Sociological Research Methods (4.0 cr)
•SOC 8811 - Advanced Social Statistics (4.0 cr)
•SOC 8890 - Advanced Topics in Research Methods (2.0 - 3.0 cr)
•STAT 8051 - Advanced Regression Techniques: linear, nonlinear and nonparametric methods (3.0 cr)

-OR-

Supply Chain and Operations (42 credits)

Students complete coursework in the areas of operations and supply chain management.

Required SCO Coursework (22 credits)

Take the following courses:

SCO 8811 - Operations Strategy (4.0 cr)
SCO 8821 - Management of Technological Operations (4.0 cr)
SCO 8822 - Innovative Operations (2.0 cr)
SCO 8831 - Supply Chain Management (2.0 cr)
SCO 8832 - Analytical Models for Operations Management (2.0 cr)
SCO 8841 - Behavioral Research in Operations Management (4.0 cr)
SCO 8842 - Retail Operations (2.0 cr)
SCO 8843 - Sustainable and Socially-Responsible Operations (2.0 cr)

Supporting Field/Methodology Coursework (14 credits)

Take the following courses:

APEC 8211 - Econometric Analysis I (2.0 cr)
APEC 8212 - Econometric Analysis II (2.0 cr)
APEC 8213 - Econometric Analysis III (2.0 cr)
APEC 8214 - Econometric Analysis IV (2.0 cr)
MGMT 8101 - PhD Seminar: Theory Building (2.0 cr)
STAT 5101 - Theory of Statistics I (4.0 cr)

Additional Supporting/Methodology Coursework (6 credits)

APEC 8206 - Dynamic Optimization: Applications in Economics and Management (3.0 cr)
APEC 8602 - Economics of the Environment (3.0 cr)
EPSY 8251 - Statistical Methods in Education I (3.0 cr)
EPSY 8264 - Advanced Multiple Regression Analysis (3.0 cr)
EPSY 8266 - Statistical Analysis Using Structural Equation Methods (3.0 cr)
EPSY 8268 - Hierarchical Linear Modeling in Educational Research (3.0 cr)
EPSY 8282 - Statistical Analysis of Longitudinal Data (3.0 cr)
HINF 5502 - Python Programming Essentials for the Health Sciences (1.0 cr)
HRIR 8802 - Core Seminar: Organizational Behavior (4.0 cr)
MGMT 8302 - Seminar in Organizational Theory (4.0 cr)
MKTG 8842 - Quantitative Modeling I (2.0 cr)
MKTG 8843 - Empirical Quantitative Models (4.0 cr)
PA 5032 - Applied Regression (2.0 cr)
PA 5033 - Multivariate Techniques (2.0 cr)
PUBH 7405 - Biostatistical Inference I (4.0 cr)
PUBH 7406 - Biostatistical Inference II (3.0 cr)
PUBH 7440 - Introduction to Bayesian Analysis (3.0 cr)
PUBH 7475 - Statistical Learning and Data Mining (3.0 cr)
PUBH 8804 - Advanced Quantitative Methods Seminar (3.0 cr)
PUBH 8811 - Research Methods in Health Care (3.0 cr)
SOC 5811 - Social Statistics for Graduate Students (4.0 cr)
SOC 8412 - Social Network Analysis: Theory and Methods (3.0 cr)
SOC 8801 - Sociological Research Methods (4.0 cr)
SOC 8811 - Advanced Social Statistics (4.0 cr)
SOC 8890 - Advanced Topics in Research Methods (2.0 - 3.0 cr)
STAT 5021 - Statistical Analysis (4.0 cr)
STAT 5102 - Theory of Statistics II (4.0 cr)
STAT 5302 - Applied Regression Analysis (4.0 cr)
STAT 5421 - Analysis of Categorical Data (3.0 cr)
STAT 5701 - Statistical Computing (3.0 cr)
STAT 8051 - Advanced Regression Techniques: linear, nonlinear and nonparametric methods (3.0 cr)
STAT 8311 - Linear Models (3.0 cr)

-OR-

Work and Organizations (44 credits)

Students complete multidisciplinary coursework covering organizational behavior, human resource management, organizational economics, personnel economics, labor relations, and related areas.

Required WOrg Coursework (28 credits)

Take HRIR 8820 4 times for a total of 8 credits. Take HRIR 8825 4 times for a total of 4 credits.

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Take 28 or more credit(s) from the following:
- HRIR 8801 - Core Seminar: Fundamentals of Economic Analysis for Work and Organizations (4.0 cr)
- HRIR 8802 - Core Seminar: Organizational Behavior (4.0 cr)
- HRIR 8803 - Core Seminar: Fundamentals of HR Research (4.0 cr)
- HRIR 8812 - Core Seminar: Research Methods in Work and Organizations (4.0 cr)
- HRIR 8820 - Seminar: Special Topics in Work and Organizations Research (2.0 cr)
- HRIR 8825 - Research Practicum/Workshop (1.0 cr)

Supporting/Methodology Coursework (16 credits)

Take a minimum of 16 credits of supporting field/methodology coursework which must include: EPsy 8264 (3 cr); Psy 5862 (3 cr); APEC 5031 (3 cr) or, APEC 8211 and APEC 8212 (2 cr each); and 7 additional credits of supporting field coursework from the list below.

EPSY 8264 - Advanced Multiple Regression Analysis (3.0 cr)
PSY 5862 - Psychological Measurement: Theory and Methods (3.0 cr)

Required Supporting/Methodology course (3 credits)

Take either APEC 5031 (3 cr) or, APEC 8211 and APEC 8212 (2 cr each).
Take 3 or more credit(s) from the following:
- APEC 5031 - Methods of Economic Data Analysis (3.0 cr)
- APEC 8211 - Econometric Analysis I (2.0 cr)
- APEC 8212 - Econometric Analysis II (2.0 cr)

Additional supporting/methodology coursework (7 credits)

Take 7 or more credit(s) from the following:
- APEC 8003 - Applied Microeconomic Analysis of Game Theory and Information (2.0 cr)
- APEC 8501 - Labor Economics I (2.0 cr)
- APEC 8502 - Labor Economics II (2.0 cr)
- CSOM 8101 - Methods and Topics in Applied Economics (2.0 - 4.0 cr)
- ECON 8205 - Applied Econometrics (2.0 cr)
- ECON 8206 - Applied Econometrics (2.0 cr)
- EPSY 5247 - Qualitative Methods in Educational Psychology (3.0 cr)
- EPSY 5261 - Introductory Statistical Methods (3.0 cr)
- EPSY 8266 - Statistical Analysis Using Structural Equation Methods (3.0 cr)
- EPSY 8268 - Hierarchical Linear Modeling in Educational Research (3.0 cr)
- EPSY 8282 - Statistical Analysis of Longitudinal Data (3.0 cr)
- HRIR 8991 - Independent Study in Human Resources and Industrial Relations (1.0 - 8.0 cr)
- MGMT 8101 - PhD Seminar: Theory Building (2.0 cr)
- MGMT 8104 - PhD Seminar: Research Design (2.0 cr)
- PSY 8208 - Social Psychology: The Self (3.0 cr)
- PSY 8664 - Personality Assessment (3.0 cr)
- PSY 8701 - Seminar in Industrial and Organizational Psychology I (3.0 cr)
- PSY 8702 - Seminar in Industrial and Organizational Psychology II (3.0 cr)
- PSY 8960 - Graduate Seminar in Psychology (1.0 - 4.0 cr)
- PUBH 6724 - The Health Care System and Public Health (3.0 cr)
- PUBH 6832 - Economics of the Health Care System (3.0 cr)
- SOC 8590 - Topics in Life Course Sociology (3.0 cr)

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Information current as of March 28, 2024