## Twin Cities Campus

# Applied Economics Ph.D.

Applied Economics

## College of Food, Agricultural and Natural Resource Sciences

Link to a list of faculty for this program.

### **Contact Information:**

Department of Applied Economics Graduate Program, 231 Ruttan Hall, 1994 Buford Avenue, Saint Paul, MN 55108-6040 (612-625-

3777; fax: 612-625-6245) Email: <u>apecdgs@umn.edu</u>

Website: https://www.apec.umn.edu/graduate-program

- Program Type: Doctorate
- Requirements for this program are current for Fall 2018
- Length of program in credits: 48 to 66
- This program does not require summer semesters for timely completion.
- Degree: Doctor of Philosophy

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

The PhD degree program in applied economics prepares students for careers in academia, government, and the private sector. This rigorous program includes core coursework in economic theory, quantitative methods, and two fields of specialization selected from the following: consumer behavior and household economics; production and marketing economics; trade and development economics; natural resource and environmental economics; health economics; labor economics; and policy analysis.

# 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.

The minimum preferred undergraduate GPA for admittance to the program is a B average (3.00/4.00). Most admitted students will have a higher GPA.

Other requirements to be completed before admission:

Applicants for the PhD degree should have completed an MS degree in economics, agricultural economics, or a related field; or have equivalent coursework and research experience. Applicants without a master's degree are, except in a few special cases, considered for admission into the MS program.

Prior training should include micro- and macro-economic theory at the master's level, multivariate calculus, differential equations and linear algebra, and mathematical statistics. Students lacking background in economics or quantitative methods may be required to complete additional coursework before entering the program.

### **Special Application Requirements:**

Applicants must submit scores from the General Test of the GRE, three letters of recommendation from persons familiar with the applicant's scholarship and research potential, a complete set of college or university transcripts, and a clearly written statement of academic and career interests, goals, and objectives. For complete application instructions, visit the website:

http://www.apecgrad.umn.edu/Admissions/index.htm. Students should apply by the December deadline to ensure priority consideration for admissions and funding.

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

• GRE

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

- TOEFL
- Internet Based Total Score: 79
- Internet Based Writing Score: 21
- Internet Based Reading Score: 19
- Paper Based Total Score: 550

• IELTS

- Total Score: 6.5

MELAB

- Final score: 80

The preferred English language test is Test of English as Foreign Language

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

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

## **Program Requirements**

24 to 42 credits are required in the major. 0 credits are required outside the major. 24 thesis credits are required.

This program may be completed with a minor.

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

A minimum GPA of 3.00 is required for students to remain in good standing.

Most students take at least 42 credits of coursework and must take 24 doctoral thesis credits. Required courses in microeconomic theory, macroeconomic theory and applied econometrics, and at least two-thirds of the remaining credits included in the PhD degree program are to be completed on the A-F grade basis.

Students must complete at least 18 course credits in applied economics at the 8xxx-level while enrolled as a current student in the graduate program (not including APEC 8901-04 and APEC 8991). PA, PUBH, and HRIR courses included in the list of fields noted in the Graduate Student Handbook can be applied to this requirement. Up to 6 credits of Department of Economics 8xxx-level field courses may be substituted for these credits (excluding ECON 8001-04, 8101-04, 8105-06, and 8205-08).

Students must pass a written preliminary exam in microeconomic theory and at least one field examination in one of the seven PhD fields offered by the Applied Economics graduate program. In addition, there is a requirement for a qualifying paper written in the second year of the program.

For more details, please see the Graduate Student Handbook at: http://www.apec.umn.edu/sites/apec.umn.edu/files/2015-16\_apec\_graduatestudenthandbook\_final.pdf

### **Microeconomic Theory**

All students must complete one of the three microeconomics theory sequences noted below (A-F only).

#### **APEC - Applied Microeconomic Theory**

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)

#### or ECON - Microeconomic Theory (Majors Sequence)

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)

## **Macroeconomic Theory**

All students must complete the following two courses (A-F only).

ECON 8105 - Macroeconomic Theory (2.0 cr)

ECON 8106 - Macroeconomic Theory (2.0 cr)

#### **Econometrics**

All students must complete the following two courses (A-F only).

#### APEC

APEC 8211 - Econometric Analysis I (2.0 cr)

APEC 8212 - Econometric Analysis II (2.0 cr)

#### **First Year Seminars**

All students must complete the following two courses (S-N only).

APEC 8901 - Graduate Seminar: MS & PhD (1.0 cr)

APEC 8902 - Graduate Research Development Seminar (1.0 cr)

#### Second Year Seminars

All students must complete the following two courses (S-N only).

APEC 8903 - PhD Qualifying Paper Seminar I (1.0 cr)

APEC 8904 - PhD Qualifying Paper Seminar II (1.0 cr)

#### Electives

(A-F only). Up to six credits of 8-level ECON courses (excluding micro theory, macro theory, 8105 and 8106) may be accepted as electives.

Take 18 or more credit(s) from the following:

- •APEC 8202 Mathematical Optimization in Applied Economics (3.0 cr)
- •APEC 8203 Applied Welfare Economics and Public Policy (3.0 cr)
- •APEC 8206 Dynamic Optimization: Applications in Economics and Management (3.0 cr)
- •APEC 8341 Applied Public Finance (3.0 cr)
- •APEC 8401 Agricultural Markets and Policy (2.0 cr)
- •APEC 8402 Information and Behavioral Economics (2.0 cr)
- •APEC 8403 Applied Consumer Theory (3.0 cr)
- •APEC 8501 Labor Economics I (2.0 cr)
- •APEC 8502 Labor Economics II (2.0 cr)
- •APEC 8601 Natural Resource Economics (3.0 cr)
- •APEC 8602 Economics of the Environment (3.0 cr)
- •APEC 8701 Trade and Development I (2.0 cr)
- •APEC 8702 Trade and Development II (2.0 cr)
- •APEC 8703 Trade and Development III (2.0 cr)
- •APEC 8704 Trade and Development IV (2.0 cr)
- •APEC 8404 Applied Production Theory (3.0 cr)
- •APEC 8803 Marketing Economics (3.0 cr)
- •APEC 8804 Managerial Economics (3.0 cr)
- •ECON 8119 Cooperative Game Theory (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 8401 International Trade and Payments Theory (2.0 cr)
- •ECON 8402 International Trade and Payments Theory (2.0 cr)
- •ECON 8403 International Trade and Payments Theory (2.0 cr)
- •ECON 8501 Wages and Employment (2.0 cr)
- •ECON 8502 Wages and Employment (2.0 cr)
- •ECON 8503 Wages and Employment (2.0 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)
- •ECON 8603 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)
- •ECON 8801 Public Economics (2.0 cr)
- •ECON 8803 Public Economics (2.0 cr)
- •HRIR 8801 Core Seminar: Fundamentals of Economic Analysis for Work and Organizations (4.0 cr)
- •PA 8302 Applied Policy Analysis (4.0 cr)
- •PA 8312 Analysis of Discrimination (4.0 cr)
- •PA 8331 Economic Demography (3.0 cr)
- •PUBH 6832 Economics of the Health Care System (3.0 cr)
- •PUBH 8811 Research Methods in Health Care (3.0 cr)
- •PUBH 8821 Health Economics II (3.0 cr)
- •APEC 8221 Programming for Econometrics (2.0 cr)
- •APEC 8222 Big Data Methods in Economics (2.0 cr)

### **Doctoral Thesis Credits**

Students must enroll for a minimum of 24 thesis credits.

Take 24 or more credit(s) from the following:

•APEC 8888 - Thesis Credit: Doctoral (1.0 - 24.0 cr)

