REQUIREMENTS FOR DUKE PH.D. ENVIRONMENTAL ECONOMICS TRACK

Requirements for Advancement to Ph.D. Candidacy
Minimum of 36 credits (not including Mathematics for Economists and Research Seminars), distributed as described below and with approval of student’s committee. Minimum 3.0 average GPA in core courses. Minimum B+ in both Microeconomic Analysis I and II, or student must take and pass the qualifying exam for the course. Successful passage of written qualifying exam in the field of environmental and resource economics. Successful passage of Doctoral Preliminary Exam (dissertation prospectus defense). For general Ph.D. requirements please refer to the Graduate School website (www.gradschool.duke.edu/policies_and_forms/requirements_for_phd.html) and the Nicholas School handbook (www.env.duke.edu/esp/students/doctoralhandbook.pdf), which further requires that students maintain a B- average to demonstrate satisfactory progress in the first year.

Core Courses
Microeconomics (6 credits)
ECON 301 MICROECONOMIC ANALYSIS I
ECON 302 MICROECONOMIC ANALYSIS II

Econometrics (6 credits)
ECON 341 ECONOMETRICS I
ECON 342 ECONOMETRICS II

Environmental and Resource Economics (6 credits)
ECON/ENV 379 NATURAL RESOURCE ECONOMICS
Either Both
ECON 395 SPECIAL TOPICS: EXTERNALITIES/PIGOUVIAN POLICY (1/2 course)
ECON 395 SPECIAL TOPICS: NON-MARKET VALUATION (1/2 course)
Or
ECG 715 ENV AND RES ECONOMICS (NC State)

Additional Field (6 credits)
As approved by student’s committee. For example: industrial organization, international development, econometrics, and so on. Some examples of potentially appropriate courses are listed under “Elective Courses” below.

Quantitative Methods (6 credits)
As approved by student’s committee. Courses satisfying student’s Additional Field may qualify. Some examples of potentially appropriate courses are listed under Elective Courses below.
Research Seminars

**Environmental Social Science Research Seminars**
ENV 391 ENV SOC SCI RES
New ENV Seminar in the Research Process (future)

**Field Research Seminars**
Examples include:
ECON 385A APPLIED MICROECONOMICS
ECON 385E RESEARCH MICROECONOMETRICS
ECON 380 ECONOMICS WORKSHOPS

**Elective Courses**
Chosen to satisfy student’s *Additional Field, Quantitative Methods*, and overall course requirements. Students who have not taken any macroeconomics courses before entering the Ph.D. program are strongly encouraged to take at least one semester of graduate-level macroeconomics through either the Department of Economics or the Sanford Institute. Examples of courses follow, but there are many other possibilities.

**Economics**
ECON 320 MACROECONOMIC ANALYSIS I
ECON 322 MACROECONOMIC ANALY II
ECON 388 INDUSTRIAL ORGANIZATION
ECON 395 SPECIAL TOPICS: MICRO-DEVELOPMENT ECONOMICS
ECON 395 SPECIAL TOPICS (other offerings that vary by year)
ECG 716 TOPICS IN ENV AND RES ECONOMICS (NC State)
PUBP0L 261/ECON 261/ENV 272 EVAL PUBLIC EXPENDITURES
ECG790C COMPUTATIONAL METHODS IN ECONOMICS (NC State)

**Decision Sciences**
BA 510 BAYESIAN INFERENCE & DEC
BA 513 CHOICE THEORY
BA 525 BEHAVIORAL DECISION THEORY
BA 591 PRESCRIPTIVE MODELS FOR DECISION ANALYSIS.
BA 591 COMPUTATIONAL ECONOMICS
BA 591 DYN. PROG. AND OPTIMAL CTRL
OR 211 LINEAR PROGRAMMING (UNC)
Also see Fuqua web: [www.faculty.fuqua.duke.edu/decision_sciences/dsphd/programs.htm](http://www.faculty.fuqua.duke.edu/decision_sciences/dsphd/programs.htm).

**Statistics and Quantitative Methods**
ENV 350 PROG EVAL OF ENV POLICIES
ENV 280 SOC SCI SURVEYS-ENV MGT
ECON 276 Applied econometrics course (UNC)
ECON 343 ECONOMETRICS III
ECON 350 ECONOMET MACRO TIME SER
STA 205 PROBABIL/MEASURE THEORY
STA 244 LINEAR MODELS
STA 376 MODEL/SCIENTIFIC COMPUT
PHYSICS 213 NONLINEAR DYNAMICS

Political Science and Public Policy
ENV 326 GLOBAL ENVIRONMENTAL POLITICS
PUBPOL 501 Political Economy of Public Policy
PUBPOL 5XX Ethics of Public Policy
Other Public Policy Courses (e.g., international energy policy)
Law courses (e.g., environmental law and risk regulation)
POLSCI courses (e.g., courses taught by Meg McKean on property rights)

Natural Sciences
ENV 259 FUND OF GIS AND GEOSPAT ANALY
EOS 211 THE CLIMATE SYSTEM
EOS 215 INTRO PHYS COASTAL PROC
Many others