COURSE OBJECTIVE: The purpose of this course is to introduce the student to the application of econometric techniques commonly used by the microeconomist. The emphasis is on the specification, estimation, interpretation, and testing of microeconometric models rather than a thorough treatments of the asymptotic properties of estimators. Methods considered include panel data estimators, instrumental variables estimators, and maximum likelihood estimation of limited dependent variable models. Most of you have seen theoretical treatment of these techniques in EC 425/525, so emphasis will be on application through various computer/homework assignments, critical review of working papers, and your own empirical project.

READINGS: William Greene’s *Econometric Analysis, Fifth Edition* is the required text for the class and will likely be your main reference even after this class. Jeffrey Wooldridge’s *Econometric Analysis of Cross Section and Panel Data* is a strongly recommended text for this course. At the end of this syllabus are listed other texts you may find useful – again, not just for this class, but for your future research efforts. Journal articles will be assigned in class as necessary.

COURSE PROJECTS AND EXAMS: The significant portion of your workload will be computer/homework assignments. This class is meant to get your hands dirty working with data and standard econometric software. Econometric assignments will require STATA, which is loaded on TERF room computers. If you have access problems to STATA, please see me as soon as possible. Some of the assignments will ask you to assess the technique and presentation of empirical results in papers I have refereed recently to build your intuition about what constitutes “solid” applied work. You can work on these homework assignments with a maximum of two others, if you choose, and hand in one homework for the group.

Another significant portion of your grade will be an empirical term paper due on Monday, March 15 by 5 pm. Late papers will receive a substantial penalty. Below I provide further details on the expectations for this paper.

There will also be a midterm during class on Thursday, February 26 which will be based on material covered during previous class periods and in your homework/computer assignments. The breakdown of grades for these components is the following.

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<th>Percentage</th>
<th>Component</th>
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<tr>
<td>50%</td>
<td>HOMEWORK/ASSIGNMENTS</td>
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<tr>
<td>25%</td>
<td>MIDTERM</td>
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<tr>
<td>25%</td>
<td>EMPIRICAL PROJECT</td>
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GENERAL OUTLINE OF COURSE
As this is the first time I am teaching the course, so please view this outline as suggestive, not definitive. I would also be happy to consider other topics suggested by students.) Readings will be announced in class each week.

**WEEK 1:** Review, Methodology and Specification

**WEEK 2:** Review, Methodology and Specification

**WEEK 3:** Panel Data Estimators

**WEEK 4:** Panel Data Estimators

**WEEK 5:** Instrumental Variable Techniques and Issues

**WEEK 6:** Self-selection, Censoring and Related Issues

**WEEK 7:** Qualitative Dependent Variables: Probit, Logit, etc.

**WEEK 8:** MIDTERM – Thursday, February 26

**WEEK 9:** Count Data Models

**WEEK 10:** Special Topics – Spatial Regression Techniques?

**EMPIRICAL TERM PAPER:** The purpose of this paper is for the student to conceptualize and execute a study in applied microeconometrics. You may have a topic in mind and are welcome to use that topic for the paper after consultation with me. For other students, a topic must be identified within the first two weeks of the term in consultation with the instructor. I have some suggestions of possible problems that could be examined with available international trade and FDI data, but we may also be able to identify available data and issues in other fields. Papers should be 10-15 pages of text (double-spaced) and should generally follow this form:

I. INTRODUCTION (1-2 pages): Identify a specific issue (problem) the paper will address and motivate why we should care about this issue. The last paragraph should briefly summarize your main empirical findings.

II. THEORY (1-3 pages): The microeconomics necessary to answer the issue (problem) should be written to provide a foundation on which to perform the empirical experiment. Ideally, a theoretical model is presented, but this section may be more discussion. Regardless, your hypotheses (and theoretical assumptions behind these hypotheses) should be clear.

III. EMPIRICAL MODEL (2-3 pages): The empirical model should consist of: 1) An equation (or set of equations) that follow directly from the theory; 2) A statement of properties of the variables (e.g., which are exogenous, which are endogenous); 3) A statement of the properties of the error structure. You should also be very clear about expected signs and key hypothesis tests.

IV. DATA (2-3 pages): The main task of this section is to describe variable construction and data sources, such that any qualified person could replicate your work without consulting you. It is helpful to be conscious of the “ideal” data set and discuss the relevant ways in which your data depart from this ideal and, if appropriate, how the econometric techniques are modified to accommodate this.

V. EMPIRICAL RESULTS (3-5 pages): This section should begin with a general discussion of the characteristics of your results. You should discuss how well you model(s) fit, the correspondence of
signs with priors, specification issues, etc. Make sure you close relate you results to the theory and hypotheses you construct in the first half of the paper. The accompanying tables of results should be presented in a professional manner and be sufficiently self-contained, such that a reader can ascertain all relevant information from the tables without having to consult the text.

VI. CONCLUSION (1 page): Summarize the problem you set out to answer and what the empirical evidence suggests is the answer. This is also the time to provide any further caveats and discuss what would be fruitful avenues to extend this work in the future.

OPTIONAL READINGS AND TEXTS

General Methods

Limited-Dependent and Panel Methods