Course Syllabus

Advanced Econometrics
Seminar in Discrete Choice Methods
AEB 6933 – Section 03DB/7745
Summer Semester, 2018
(Prerequisite: Fundamentals of Econometrics)

INSTRUCTOR: Pilar Useche.
1091 McCarty Hall B
Email: useche@ufl.edu

CLASSROOM: MCCB, room 2102.

CLASS MEETINGS: T R, Periods 02-03, W Period 03.

OFFICE HOURS: directly after class, or by appointment.

COURSE DESCRIPTION: In this seminar we will study the econometrics and economics of discrete choice models. The focus of the class is on the correct application of these empirical methods and on the correct interpretation of their results under the light of sound economic theory. Students’ knowledge is tested through weekly and comprehensive problem sets. Article presentations are also required, presenting papers which use the methods discussed in class. Presentations are graded based on students’ ability to transfer to other students main and often complex paper ideas and developments. Over the course there is a nice progression of models where each new model builds on previous ones and addresses some of the weaknesses of its predecessor(s). Similarly, the problem sets do progressively lead the students from the most basic types of estimations (using standard econometric packages) to the ones that require programming, simulation and other complex ways of data analysis. We will use real data for the problem sets and STATA/R and GAUSS to program our models.

The aims of the class include: to gain a thorough understanding of the most important discrete choice models available and the methods to estimate them; to be able to program your own models for estimation, including simulation procedures, and to be able to apply your knowledge
to choice decisions in different settings.

STATA, R and GAUSS use: students can access Stata and R through UF Apps, R is also available online for no cost. Gauss will be provided by the ApTech enterprise after registration in the course. Please contact our IT support personnel (Ed Howard) If you have any problems with the software.

**RECOMMENDED TEXTBOOKS:**


**COURSE GRADING:**

Your course grade will be determined by your work on the problem sets and your presentation/s. There will be computer-oriented problem sets (based on codes and datasets provided to you) and presentations of complementary readings. For the presentation/s, **you should email me your slides at least 24 hours before you present**. Regarding problem sets, you should hand in two separate files: your code (with numbered files), your answers (including tables and explanations, making reference to code line numbers). I will grade all assignments as: check-plus, check, or check-minus. Your course grade will be A if you receive a check or check-plus for all of them. Your grade will be reduced by one step (eg from A to A-, A- to B+) for each check-minus that you receive. Your grade will also be reduced by two steps (eg from A to B+, B+ to B-) for each presentation you miss or problem set that you do not turn in.

**Attendance**

Attendance is important. The student’s success in this class will be dependent upon their participation and the amount and quality of effort expended. Students will be held responsible for material covered in class. As a courtesy to fellow students and the instructor, students are expected to arrive on time. If the student cannot arrive on time because of extenuating circumstance, the student is strongly encouraged to meet with the instructor during the first week of classes.

**Absences and tardiness will reduce grades** as follows: More than two late arrivals/early departures will reduce the student’s grade by one step. More than one unexcused/non-documented absence will reduce the student’s grade by two steps. In extreme cases, lack of student engagement in class could also lead to a grade reduction.
Lids Down/Messaging Policy

Laptops are only permitted to be used in class for the purpose of using statistical and econometric software. If students want to review readings during class, they will need to bring a printed copy of these, not read in the laptops. Text messaging, cell phones and other forms of cyber communication are not to be used in class, unless there is an exceptional circumstance and the student has notified the teacher in advance.

**SCHEDULE:**

**Week 1**
- Review of syllabus and general course overview.
- Introducing discrete choice & drawing from densities.
- Properties of Discrete Choice Model
- Logit
  - Start Problem Set 1

*Readings:*

Textbook, Ch.1 and Sections 9.1-9.2, Ch.2 and 3


**Week 2**
- Numerical Maximization.
  - Start Problem Set 2
- Generalized Extreme Value
- Nested Logit
  - Start Problem Set 3

*Readings:*

Textbook, Ch.8, Ch 4.

K. Train, Qualitative Choice Analysis, Cambridge, MA, MIT Press, 1986, Ch. 8: Automobile Ownership and Use


Week 3
- Mixed Logit
  - Start Problem Set 4
- Individual Level Coefficients

Readings:

Textbook, Ch.6, Ch 11.


Week 4

- Probit.
- Variance Reduction and Simulation Assisted Classical Estimation

Readings:

Textbook, Ch.5, Sect. 9.3. Ch 10.


Week 5

- Bayesian Estimation
- Hierarchical Bayes Estimation of Mixed Logit
- Problem Set 5 Available.
Readings:

Textbook, Ch.12.


Week 6

- Endogeneity: BLP, Control functions, Latent instruments.

Readings:

Textbook, Ch.13.


Other papers relevant to the use or design of discrete choice methods
Choice of a beef product

Choice of Brand for Crackers, Catsup and Yogurt

Choice of Brand for Crackers 2

Choice of Brand for Ketchup

Choice of Brand for Tuna

Choice of Fishing Mode

Mode Choice for the Montreal-Toronto Corridor

**Ranked data for gaming platforms**

**Choice among residential telephone service options for local calling**

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**Stated Preference Performance**

**Stated Preferences survey for a toll road**

**Stated Preferences for Train Traveling**

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**Discrete Choice and Social Networks**


Michael Maness, Cinzia Cirillo. (2016) An indirect latent informational conformity social influence choice model: Formulation and case study. Transportation Research Part B: Methodological 93, 75-


**Food, Valuation & Experiments**


UNIVERSITY POLICIES:

**Academic Honesty:** The University of Florida requires all members of its community to be honest in all their endeavors. Students are required to commit themselves to academic honesty by signing a prescribed basic statement, including the Student Honor Code, as part of the registration process. A fundamental principle is that the whole process of learning and pursuit of knowledge are diminished by cheating, plagiarism, and other acts of academic dishonesty. In addition, every dishonest act in the academic environment affects other students adversely, from the skewing of the grading curve to giving unfair advantage for honors or for professional or graduate school admission. Therefore, the University will take severe action against dishonest students. Similarly, measures will be taken against faculty, staff, and administration members who practice dishonest or demeaning behavior.

**Acts of Academic Dishonesty**

**I. Taking Information**
- copying graded homework from another student
- working together on a take-home test or homework when specifically prohibited by the professor
- looking at another student's paper during an exam

**II. Tendering Information**
- giving your work to another to be copied
- giving someone answers to exam questions during the exam
- after taking an exam, informing a person in another section, of questions that appear on the exam
- giving or selling a term paper to another student

**III. Plagiarism**
- copying homework answers from your text and handing them in for a grade
- quoting test or other works on an exam, term paper or homework without citation
- handing in a paper purchased from a term paper service
- re-typing a friend's paper and handing it in as your own
- taking a paper from fraternity/sorority files and handing it in as your own

**IV. Conspiracy**
- planning with one or more students to commit any from of academic dishonesty together
- giving your term paper to another student who you know will plagiarize it

**V. Misrepresentation**
- having another student do your computer program
- lying to a professor to increase your grade

**VI. Bribery**
- offering money, any item or service to a faculty member or any other person to gain academic advantage for yourself or another
UF Services: Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation.

Resources are available on-campus for students having personal problems or lacking clear career and academic goals that interfere with their academic performance. These resources include:

1. University Counseling Center, 301 Peabody Hall, 392-1575, personal and career counseling;
2. Student Mental Health, Student Health Care Center, 392-1171, personal counseling;
3. Sexual Assault Recovery Services (SARS), Student Health Care Center, 392-1161, sexual counseling; and
4. Career Resource Center, Reitz Union, 392-1601, career development assistance and counseling.

Accommodations for Students with Disabilities: Students with disabilities, who need reasonable modifications to complete assignments successfully and otherwise satisfy course criteria, are encouraged to meet with the instructor as early in the course as possible to identify and plan specific accommodations. Students WILL be asked to supply a letter from the Office for Students with Disabilities to assist in planning accommodations. Please see instructor outside of class time to discuss any accommodations you might need.