Advanced Quantitative Analysis II: Categorical Dependent Variables
J. Andrew Sinclair
NYU Wagner

Lectures: Tuesday nights, GCASL, 279, 6:45-8:25p
Note: expect utter scheduling chaos.

Course Description: Prepares students to understand, estimate, and interpret a variety of models intended for use with categorical dependent variables. These types of models arise in the context of many subjects of interest in public affairs, including but not limited to more sophisticated models of survey responses. Students learn to use these models in modern statistical software and embed the results in a quantitatively-informed memo.

This course may be taken after Advanced Quantitative Analysis I or as a stand-alone course.

Course Materials: I will post what you need on NYU Classes, including some links to books you might like to get. My advice: take the course first, see if you like this stuff, and then decide whether you want to invest in more books. The one thing you will definitely need is access to Stata (IC or SE, not “Small Stata”). You can obtain this for free using NYU’s “Virtual Computer Lab” (VCL), although students report somewhat mixed experiences with the VCL. You can buy a copy at student rates or rent a copy for a period of time. My advice: it’s nice to have your own indefinite Stata license if you can afford it.

Course Requirements & Grading: This is a practical skills-oriented advanced graduate course, so the assessments are limited:

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<tr>
<th>Requirement</th>
<th>Percentage</th>
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<tr>
<td>Participation</td>
<td>25%</td>
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<tr>
<td>Research Evaluation Assignment No. 1</td>
<td>20%</td>
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<tr>
<td>Research Evaluation Assignment No. 2</td>
<td>20%</td>
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<tr>
<td>Final (Group) Assignment</td>
<td>35%</td>
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The participation requirement here is serious: I’ll read and score your total contributions on the course forum (through NYU Classes), where you are expected to comment, ask questions, provide outside materials, and engage with the rest of the group as an intellectual community.

Course Administration via NYU Classes: All announcements will be delivered through NYU Classes and materials and assignments posted there. Participation in the forum is expected, as outlined above. I may modify assignments, due dates, and other aspects of the course as we go through the term with advance notice provided as soon as possible through the course website. Materials are organized week-by-week in the Resources folder, with the exception of multi-week assignments which have their own folders.

Academic Integrity: The students and faculty at NYU are very concerned about academic integrity. Each student should have the assurance that the rules of the game are understood by everyone and enforced equally. Students are encouraged to learn and study together.
Individual assignments are just that, but mutual assistance is appropriate. The Wagner School has an academic code that is available here:

http://wagner.nyu.edu/students/policies/academic-code.

Every student is expected to maintain academic integrity and is expected to report violations to me. If you are unsure about what is expected of you, ask.

Additional Administrative Details / Responses to Frequently Asked Questions

- If you want a response to an email: make sure you write a compelling subject line and make clear what you want and when you want it. Aside from personal matters, questions about the course content should go on the forum.
- You are responsible for obtaining any materials distributed in or outside of class. If you cannot find something on NYU Classes, post an inquiry on the forum.
- I understand many of you have children at home or work responsibilities that may require you to monitor your phones for incoming messages -- that is ok, just do it quietly.
- I reserve the right to revise this syllabus as the term progresses. I have made at least some changes to the syllabus in nearly every semester of every course I have taught – so expect this. If I make changes to the syllabus, I will also use the course email system to notify you.
- Bring your laptop to class.

Policy Regarding Disability Services and Programs

Students with disabilities are encouraged to register with the Moses Center for Students with Disabilities, 726 Broadway, 2nd Floor, (212-998-4980). Reasonable accommodations can be made for students with qualified disabilities, but only for students who have registered with the Moses Center and provide documentation from that office. Please be sure to make these arrangements in the first week of the term.
(Tentative) Schedule

Lecture 1: Linear Regression as a Special Case.
No reading in advance. This lecture connects more familiar linear models to models for categorical outcomes. Introduction to the final project (which takes place throughout the course).

Lecture 2: A Reintroduction to Logit/Probit.
This lecture covers logit/probit in detail.
- Read selection from King, Unifying Political Methodology.
- Do in advance of class Research Evaluation No. 1 (Described in Lecture 1)

Lecture 3: Interpretation of Results
Interpreting results in this setting is slightly more difficult. Illustrated in the logit/probit framework with a focus on actually producing the stata graphics.
- Read: Materials posted in Classes Folder.
- Please bring your computer to class.

Lecture 4: Ordered Logit, Sequential Logit, Bivariate Probit
This lecture focuses on some relatively simple extensions.
- “RED” – Do Research Evaluation No. 2

Lecture 5: Heteroskedastic Probit.
This lecture focuses on a substantively interesting model – initially developed in a survey context in political science but then used elsewhere.
• “BLUE” – Do Research Evaluation No. 2

Lecture 6: Multinomial Logit, Multinomial Probit.

This lecture focuses on two commonly used models.

• (Optional), Read: Ch. 6, 7, and 10 from Alvarez, R. Michael and J. Andrew Sinclair. 2015. Nonpartisan Primary Election Reform: Mitigating Mischief. New York: Cambridge University Press.
• “GREEN” – Do Research Evaluation No. 2.

Lecture 7: Application Advice

No readings for this week as students are finishing their final memos.

Final Group Project Due – see NYU Classes ‘Assignments.’