

## SYLLABUS

### ANALYTICAL METHODS

(LAW 1107-08)

Georgetown University Law Center

Professor Joshua C. Teitelbaum

Spring 2014

Monday & Wednesday, 9:35 AM – 11:00 AM

**Course Description:** Lawyers in every type of practice (corporate, litigation, government, public interest, etc.) routinely deal with problems that require a basic understanding of concepts and methods from economics and statistics. This course provides an introduction to these subjects and their application and relevance to law and legal practice. Topics covered include decision analysis, game theory, microeconomics, probability theory, and statistics. Grades will be based on class participation, a graded problem set, and a final examination. No prior background in economics or statistics is required; however, we will regularly use elementary algebra and geometry. Students with strong backgrounds in economics, mathematics, or statistics should consult with the professor before enrolling in the course.

**Professor Information:**

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**Courseware Site:** There will be a Courseware site for the course. The password for enrolling in the Courseware site is METHODS. Selected course materials will be posted on the Courseware site. In addition, I will post announcements on the site from time to time, so please check the site routinely.

**Course Materials:** The required text for the course is HOWELL E. JACKSON ET AL., ANALYTICAL METHODS FOR LAWYERS (2nd ed. 2011). Additional materials for the course—including articles, cases, and problems—will be posted on the Courseware site.

**Class Format:** The class will combine lecture and discussion. Students are expected to attend all class meetings, to prepare for and participate in class discussion on a regular basis, and to complete assigned problems that are designed to provide you with practice working with the main concepts of the course.

**Grading:** Grades will be based on class participation (10%), one graded problem set (25%), and an eight-hour take-home final examination (65%). Administrative details regarding the final examination will be provided at the appropriate time.

**Topics and Assignments:** The following is a schedule of topics and reading assignments for the course.

<b>DECISION ANALYSIS</b>			
1	Jan 13	Introduction; Decision Trees	Text: Chapter 1, Sections 1 & 2, pp. 1-24. Problem 1.
2	Jan 15	Information; Sensitivity Analysis	Text: Chapter 1, Sections 3 & 4, pp. 24-30. Problems 2-4.
	Jan 20	No Class – MLK Holiday	
3	Jan 22	Risk Aversion	David A. Cather, <i>A Gentle Introduction to Risk Aversion and Utility Theory</i> , 13 Risk Management and Insurance Review 127 (2010): Read pp. 127-141.  Complete practice problem 1 on pp. 141-142. Redo practice problem 1 with $U = \ln(W)$ .
4	Jan 27	Time Value of Money	Text: Chapter 5, Section 3, pp. 229-237. Problems 5-8.
<b>GAMES AND INFORMATION</b>			
5	Jan 29	Introduction to Game Theory	Text: Chapter 2, Section 1-3, pp. 33-47. Problem 1.
6	Feb 3	Sequential Games	Problems 2-4.
7	Feb 5	Moral Hazard	Text: Chapter 2, Section 4, pp. 47-52. Problems 5 & 6.
8	Feb 10	Adverse Selection	Text: Chapter 2, Section 5, pp. 52-55.  George A. Akerlof, <i>The Market for "Lemons": Quality Uncertainty and the Market Mechanism</i> , 84 Quarterly Journal of Economics 488 (1970): Read pp. 488-496.  Problems 7-9.

9	Feb 12	Bargaining; Repeated Games; Settlement versus Trial	Text: Chapter 2, Section 6, pp. 55-58. Text: Chapter 7, Section 5.B, p. 420-427. Problems 10 & 11.
	Feb 17	No Class – Presidents Day	
	Feb 19	No Class – Faculty Retreat	
<b>MICROECONOMICS</b>			
10	Feb 20*	Competitive Markets	Text: Chapter 6, Sections 1 & 2, pp. 283-315. Problem 1.
11	Feb 24	Monopoly	Text: Chapter 6, Section 4, pp. 320-335. Problem 2.
12	Feb 26	Externalities and Public Goods	Text: Chapter 6, Sections 5 & 6, pp. 335-347. Problems 3 & 4.
<b>PROBABILITY</b>			
13	Mar 3	Fundamentals of Probability	James Brook, <i>A Lawyer's Guide to Probability and Statistics</i> (1990): Read pp. 33-46.
14	Mar 5	Fundamentals of Probability	Problem 1.
	Mar 10	No Class – Spring Break	
	Mar 12	No Class – Spring Break	
15	Mar 17	Bayes' Rule	James Brook, <i>A Lawyer's Guide to Probability and Statistics</i> (1990): Read pp. 69-85. Problem 2.
16	Mar 19	Statistical Evidence: Identity	<i>People v. Collins</i> , 438 P.2d 33 (Cal. 1968). Problem 3.

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\* This is a Thursday. But is it a Statutory Monday.

17	Mar 24	Statistical Evidence: Coincidence	<p><i>State v. Pankow</i>, 422 N.W.2d 913 (Wis. App. 1988).</p> <p>Ray Hill, <i>Reflections on the Cot Death Cases</i>, 2 Significance 13 (2005).</p> <p><i>Rex v. Smith</i>, 85 L.J.K.B. 2153 (1915).</p>
18	Mar 26	Statistical Evidence: Matching	<p><i>Plemel v. Walter</i>, 735 P.2d 1209 (Or. 1987).</p> <p>Problem 4.</p>
<b>STATISTICS</b>			
19	Mar 31	Review of Graded Problem Set	
20	Apr 2	Descriptive Statistics	<p>Text: Chapter 8, Section 1, pp. 445-469.</p> <p>Problem 1.</p>
21	Apr 7	Hypothesis Testing	<p>Text: Chapter 8, Sections 2.A &amp; 2.C-2.E, pp. 469-472 &amp; 476-486.</p> <p>Problem 2.</p> <p><i>Castaneda v. Partida</i>, 430 U.S. 482 (1977).</p> <p><i>Hazelwood School District v. United States</i>, 433 U.S. 299 (1977).</p>
22	Apr 9	<i>United States v. Shonubi</i>	<p><i>United States v. Shonubi</i> (Shonubi III), 895 F. Supp. 460 (E.D.N.Y. 1995).</p> <p><i>United States v. Shonubi</i> (Shonubi IV), 103 F.3d 1085 (2d Cir. 1997).</p>
23	Apr 14	Bivariate Regression	<p>Text: Chapter 9, Section 1, pp. 489-513.</p> <p>Problem 3.</p> <p><i>Marks v. Stinson</i>, 19 F.3d 873 (3d Cir. 1994).</p> <p><i>Marks v. Stinson</i>, 1994 WL 146113 (E.D.P.A. 1994) (on remand).</p>
24	Apr 16	Multiple Regression	<p>Text: Chapter 9, Section 2, pp. 513-524.</p> <p>Problem 4.</p>
25	Apr 21	Multiple Regression	<p><i>Bazemore v. Friday</i>, 478 U.S. 385 (1986).</p> <p><i>McClesky v. Kemp</i>, 481 U.S. 279 (1987).</p>
26	Apr 23	Overflow and Review	