

**Rutgers, The State University of New Jersey**  
**Graduate School of Education**  
**Decision Analysis I – 15:230:522**  
**Spring 2013 – Thursday 4:50 pm – 7:20 pm**

**Instructor:** Dr. Thomas W. Tramaglino  
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**Required Texts:**

Baker, B.D., & Richards, C.E. (2004). *The ecology of educational systems: Data models and tools for improvisational leading and learning*. Upper Saddle River, NJ: Pearson Merrill Prentice-Hall.

Other readings as assigned throughout the semester

Course will use eCollege as the course web space

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**Coursework:**

Decision Analysis I is a course that focuses on quantitative decision making in organizations, specifically educational organizations. The class concentrates on practical applications of different analytical data tools and techniques, which are grounded in theory and sound methodological research to examine authentic organizational contexts and drive decision-making. Decision Analysis I emphasizes the use of microcomputers for quantitative decision-making.

**1.24:** Course introduction; *Pre-Assessment*; Theory and Research; Databases; Finding and Presenting Data I- In-Class Task

Course *Pre-Assessment*: Why is quantitative analysis important to educational or organizational decision-making? What data tools can be utilized to promote sound analytical expertise to support decision-making in organizations?

*[HW - Read Chapters 2 & 3 (Baker & Richards)]*

**1.31** Leadership Interview Experience

**2.7** Descriptive Statistics; Mining Data; Presenting Descriptive Statistics [Writing and Visual] – In-Class Task; Distribute and Begin Assignment #1 ; Finding and Presenting Data II; Writing Policy

Briefs and Memos; Organizing Data; Cleaning Data; Data Management; Filtering; Sorting; Manipulation - In-Class Task

*[HW - Read Chapter 4 (Baker & Richards); Assignment #1]*

**2.14** Indicators and Ratios; Mining Data and Making Interpretations from Descriptive Data; Ratios; Value-Added Models (VAM); Building Simple and Advanced Indexes; In-Class Task

*[HW – Read Chapter 5 – Complete Assignment #1]*

**2.21** Presentations of Assignment #1; Assignment #1 Review; Standard Distributions; Understanding a Descriptive Statistics Array; Ranks; Percentiles; Comparing Distributions and Statistical Significance; In-Class Task

*[HW – Read Chapter 6 (Baker & Richards)]*

**2.28** Similarities and Differences; Group Analysis; Educational Research and Practice- what to believe? In-Class Task

*[HW – Read Chapter 7 (Baker & Richards)]*

**3.7** Time as a Variable; Organizational Relationships; x and y values; Scatter plots; Simple Correlation and Significance; Effect Sizes; Lines of Best Fit; Input-Outcome Relationships; In-Class Task; Distribute and Begin Assignment #2 (If time permits)

*[HW – Read Chapters 8 & 9 (Baker & Richards); Assignment #2]*

**3.14** Evaluating Data and Trends over Time; Manipulating Data to Find Patterns

*[HW – Read Chapters 10 (Baker & Richards); Complete Assignment #2]*

**3.21** Spring Break – No Class

**3.28** Quasi-Action Research; Data Work Session with In-Class Task; Assignment #2 Due

*[HW – Supplemental Reading Assignment TBA]*

**4.4** Explore Data Tools for Advanced Manipulation and Statistical Modeling; In-Class Task

*[HW - Complete In-Class Task]*

**4.11** In-Class Guided Practice of Demo Tools; Navigating, Organizing, Cleaning, and Manipulating Multiple Data Sets through Modeling; Work Session

*[HW – Supplemental Reading Assignment TBA]*

- 4.18** Distribute Demo Task; Demonstration Task Review; Organizational Level Data-Driven Decision-Making; Technical Manuals and Getting to the DATA; Using Technical Manuals and Other Data to Drive Learning

*[HW – Complete In-Class Task; Demonstration Task]*

- 4.25** Classroom Level Data-Driven Decision-Making; Presentations;

*[HW – Complete In-Class Task; Demonstration Task]*

- 5.2** Work Session – Prep for Final Demonstration Task

*[HW – Demonstration Task]*

- 5.9** Demonstration Tasks Due; Course Review and Analysis; Presentations of Demonstration Task

*[HW – Demonstration Task] – Upload to Sakai Site*

**\*\*\*\*NOTE: There will be additional readings assigned as the course progresses.**

**Course Requirements:**

Students will be expected to: a) Participate in class discussions, synthesize information, and provide insightful commentary based on readings, lectures, and practical experiences, b) submit all classroom tasks on-time, c) work individually and/or in small groups to complete class tasks and assignments that serve as evidence of functional understanding and proficient use of data in organizational decision-making, d) deliver presentations as assigned, and e) complete **all** readings and written assignments on time. There is not a mechanism available for handing in assignments late. Late assignments penalized.

**Knowledge Objectives: TLWBT –**

- Identify multiple modes of quantitative data and synthesize data using multiple tools for analysis (Indicators, Ratios, Descriptive Statistics, Finding and Interpreting Relationships, Evaluating Change over Time, etc.)
- Evaluate current issues in educational organizations using learned data analysis tools
- Analyze, evaluate and find relationships between multiple data that yield evidence to the contrary of what is considered normal or practical
- Find and interpret statistical understanding of data in authentic contexts
- Use Data to Drive Decision-Making
- Synthesize the principles of research-based data-analysis to guide focused decision making
- Exhibit leadership and organizational skills while working in a cooperative group situation
- Effectively work with colleagues to solve simple and complex problems

NJPSTSL Standards Assessed: (1.2-5; 1.11, 1.13) (2.1, 6,9-10) (3.2, 5, 9-10) (4.1) (5.9) (6.5, 11, 14-15, 19)

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***Ed Admin Course Standards***

Courses are designed to further the following administrative certification standards detailed in New Jersey Administrative Code:

1. **General Leadership:**
    - **New Jersey Administrative Code Requirement 6A: 9-12.5 (a) 2:**
      - i. Leading a common vision of learning in the school community (elements of developing and implementing shared vision);
      - v. Leading with integrity and fairness;
  
  2. **Instructional Leadership:**
    - **New Jersey Administrative Code Requirement 6A: 9-12.5 (a) 2:**
      - i. Leading a common vision of learning in the school community (instructional elements);
      - ii. Leading a climate and culture conducive to student learning and staff professional growth;
  
  3. **Management:**
    - **New Jersey Administrative Code Requirement 6A: 9-12.5 (a) 2:**
      - iii. Leading a safe and effective environment for learning;
  
  4. **Context/Community:**
    - **New Jersey Administrative Code Requirement 6A: 9-12.5 (a) 2:**
      - iv. Leading the mobilization of resources, response to diverse needs, and collaboration with families and communities;
      - vi. Leading with a perspective of the larger political, social, economic and legal context;
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**Grading:**

<b>Leadership Interview</b>	<b>5 points possible</b>
<b>Assignment #1</b>	<b>15 points possible</b>
<b>Assignment #2</b>	<b>20 Points Possible</b>
<b>Assignment #3 (Demonstration Task)</b>	
<b>-Demonstration Task Product</b>	<b>20 Points Possible</b>
<b>-Presentation (Group)</b>	<b>10 Points Possible</b>
<b>Class/Take-Home Assignments</b>	<b>15 Points Possible</b>
<b>Participation/Attendance/Willingness</b>	<b>15 points possible</b>

to embrace new positions when presented  
with new knowledge/Synthesis of readings/Depth of answers.  
(poor attendance will negatively affect final grade)  
(minimum of 2pts off final grade for each class missed)  
(late papers penalized ½ grade: A to B+, etc.)

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### Recommended Readings

- Bloom, B. (1984). The 2 sigma problem: The search for methods of group instruction as effective as one-on-one tutoring. *Educational Researcher*, 13(6), 4-16.
- Choi, K., Goldschmidt, P., & Yamashiro, K. (2005) Exploring models of school performance: *From theory to practice*. In J.L. Herman & E.H. Haertel (Eds.), *Uses and misuses of data for educational accountability and improvement: The 104th yearbook of the National Society for the Study of Education* (pp. 119-146). Malden, MA: Blackwell Publishing.
- Coleman, James S. (1966). Equality of educational opportunity study [Computer file]. ICPSR06389-v3. Washington, DC: U.S. Department of Health, Education, and Welfare, Office of Education/National Center for Education Statistics [producer], 1999. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2007-04-27. doi:10.3886/ICPSR06389
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Erlbaum.
- Goodlad, J. (1984). *A place called school: Prospects for the future*. New York: McGraw-Hill.
- Smith, E.R., & Tyler, R.W. (1942). *Appraising and reporting student progress*. New York, NY: Harper and Row.
- Tramaglino, T.W. (2007). Dangers of percentages proficient: Analysis of interpretations of high-stakes assessment results on the New Jersey School Report Card. *New Jersey Journal of Supervision and Curriculum Development*, 52(1), 18-32.
- Wang, M.C., Haertel, G.D., & Walberg, H.J. (1993). Toward a knowledge base for school learning. *Review of Educational Research*, 63(3), 249-294.
- Zhao, Yong. (2009). *Catching up or leading the way: American education in the age of globalization*. Alexandria, VA: Association for Supervision and Curriculum Development.