

HI ED 830
Designing IR Studies
Spring 2011

Instructor

John Cheslock

Phone: (814) 865-9739

E-mail: jjc36@psu.edu

Teaching Assistant

Andrew Koricich

E-mail: mak344@psu.edu

Course Description

This course teaches many of the key research design skills needed to perform institutional research at a high level. We cover many key skills – effective description, prediction, reporting, and presenting – that are rarely discussed in research design classes. We also cover more traditional research design topics, such as surveying, measuring, qualitative methods, and causal inference. Throughout the class, students will be encouraged to produce meaning from data and to communicate that meaning in a manner that is both compelling and easy to understand.

Course Readings

There are no required texts for this class. Readings will be drawn from a variety of books and journal articles, and PDFs of these readings will be provided on the course ANGEL site.

Requirements on which the Grade in the Course will be Based:

- 1/3 of your grade: Participation in Discussion Boards
- 1/3 of your grade: Weekly Assignments
- 1/3 of your grade: Student Project

Participation in Discussion Boards

For some weeks, I will provide a discussion question. You are required to provide your own answer to this question and then comment on at least two of the answers provided by your class mates. Students are encouraged to move beyond the required minimum and engage in lively and thoughtful discussions.

Weekly Assignments

For some weeks, I will provide a short assignment that is related to that week's readings. Those assignments are due by the following Monday at 10am.

Class Project

Each student will create a data collection plan that includes survey questions and interviews/focus groups. Students will develop their plan during units 8 through 12.

Other Course Policies

If you find that an unexpected circumstance prevents you from completing an assignment on time, please alert the instructors *as soon as possible*. Otherwise, late work will be penalized.

All College of Education policies (<http://www.ed.psu.edu/educ/current-students/academic-integrity/>) regarding academic integrity apply to this course.

We welcome students with disabilities into the course. If you have a disability-related need for reasonable academic adjustments in this course, please notify us as early in the semester as possible.

Class Schedule and Assigned Readings

Unit #1: Introduction

1/17/11 – 1/23/11

Abelson, R. (1995). *Statistics as Principled Argument*. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc. (pp. 1-16)

Terenzini, P. (1993). On the Nature of Institutional Research and the Knowledge and Skills it Requires. *Research in Higher Education*, 34(1), 1-10.

Varian, H. (2009). Hal Varian on how the Web challenges managers. *McKinsey Quarterly*. [Section entitled “On Workers and Managers”.]

Unit #2: Describing Univariate Data

1/24/11 – 1/30/11

Cleveland, W. (1993). *Visualizing Data*. Murray Hill, NJ: AT&T Bell Laboratories. [pp. 1-2, 4-8, 16-23, 25-27, 33, 42-49]

Cleveland, W. (1994). *The Elements of Graphing Data*. Murray Hill, NJ: AT&T Bell Laboratories. [pp. 8-9, 132-154, & 180-185]

*Kirk, Roger E. (1999) *Statistics: An Introduction. 4th Edition*. Fort Worth: Harcourt Brace. pp. 70-87 & pp. 104-124. [The discussion of the median starting on the bottom of page 77 (and continuing to page 79) confuses many students, so feel free to skip this material if you find it unhelpful.]

Unit #3: Describing Bivariate Relationships: Introduction

1/31/11 – 2/6/11

2/7/11 – 2/13/11

Cleveland, W. (1994). *The Elements of Graphing Data*. Murray Hill, NJ: AT&T Bell Laboratories. [pp. 168-180]

* Jaeger, Richard M. (1990) *Statistics: A Spectator Sport*. 2nd Edition. Newbury Park: Sage Publications. pp. 61-70.

Stock, J. & Watson, M. (2007). *Introduction to Econometrics*. Boston: Pearson. [pp. 112-124]

Unit #4: Describing Bivariate Relationships: Seeking Causal Descriptions I

2/14/11 – 2/20/11

Shadish, William R., Thomas D. Cook, and Donald T. Campbell. (2002). *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Boston: Houghton Mifflin Company. [pp. 33-42]

Stock, J. & Watson, M. (2007). *Introduction to Econometrics*. Boston: Pearson. [pp. 186-193 & 239-244.]

Unit #5: Describing Bivariate Relationships: Seeking Causal Descriptions II

2/21/11 – 2/27/11

Cheslock, J. & Rios-Agular, C. (in press). Multilevel analysis in higher education research: A multidisciplinary approach. In J. Smart (Ed.), *Higher Education: Handbook of Theory and Research*, Volume 26. Dordrecht, The Netherlands: Springer. [You are only required to read pages 1-20 of 'working paper version.]

Meyer, B. (1995). Natural and quasi-experiments in Economics. *Journal of Business & Economic Statistics*, 13(2), 151-161. [You only required to read pages 151-156 (Sections 1-3).]

Murnane, R. & Willett, J. (2011). *Methods Matter: Improving Causal Inference in Educational and Social Science Research*. New York: Oxford University Press. [pp. 26-38.]

Unit #6: Prediction I
2/28/11 – 3/6/11

Noble, J. & Sawyer, R. (2002). Predicting different levels of academic success in college using high school GPA and ACT composite score. *ACT Research Report Series 2002-4*.

Osborne, Jason W. (2000). Prediction in multiple regression. *Practical Assessment, Research & Evaluation*, 7(2). [Available at: <http://pareonline.net/getvn.asp?v=7&n=2>]

Thomas, E., Dawes, W., & Reznik, G. (2001). Using predictive modeling to target student recruitment: Theory and practice. *Association for Institutional Research Professional File*. Number 78.

Unit #7: Prediction II
3/7/11 – 3/13/11

Taleb, Nassim. (2007). *The black swan: The impact of the highly improbable*. New York: Random House. (pp. xvii—xxv)

Unit #8: Surveying I
3/14/11 – 3/20/11
[Guest Speaker: Leticia Oseguera]

Dillman, D. A. (2007). *Mail and internet surveys: The tailored design method* (2nd ed.; 2007 Update). New York: John Wiley & Sons. [pp. 32-78, 86-94, and 140-147]

Suskie, L. A. (1996). *Questionnaire survey research: What works* (2nd ed.). Tallahassee, FL: Association for Institutional Research. [pp. 1-23]

Other Sources of Information

Dillman, D. A. (2008). *Mail and internet surveys: The tailored design method* (3rd ed.). New York: John Wiley & Sons. [Remaining portions of the book]

Fowler, F.J. (2002). *Survey Research Methods*. Thousand Oaks, CA: Sage Publications.

Groves, R., Fowler, F., Couper, M., Lepkowski, J., Singer, E., & Tourangeau, R. (2004). *Survey methodology*. Hoboken, NJ: Wiley-Interscience.

Suskie, L. A. (1996). *Questionnaire survey research: What works* (2nd ed.). Tallahassee, FL: Association for Institutional Research. [Remaining portions of the book]

Unit #9: Surveying II

3/21/11 – 3/27/11

[Guest Speaker: Patrick Terenzini]

Bauer, K. (2004). Conducting longitudinal studies. In Porter, S. (Ed.) *Overcoming survey research problems*. (pp. 75-90) New Directions for Institutional Research Number 121. Jossey-Bass: CA.

Porter, S. (2004). Raising Response Rates: What Works? In Porter, S. (Ed.) *Overcoming survey research problems*. (pp. 5-21) New Directions for Institutional Research Number 121. Jossey-Bass: CA.

Umbach, P. (2004). Web surveys: Best practices. In Porter, S. (Ed.) *Overcoming survey research problems*. (pp. 23-38) New Directions for Institutional Research Number 121. Jossey-Bass: CA.

Other Sources of Information

Cheskis-Gold, R., Loescher, R. Speard-Rabadam, E., & Carroll, B. (2006). Essential steps for web surveys: A guide to design ning, administering, and utilizing web surveys for university decision making. *Association for Institutional Research Professional File*. Number 102.

Unit #10: Measuring

3/28/11 – 4/3/11

Fowler, F.J. (2002). *Survey Research Methods*. Thousand Oaks, CA: Sage Publications. [Chapter 5. Designing Questions to Be Good Measures (pp. 76-103)]

Light, R., Singer, J., & Willet, J. (1990). *By Design: Planning Research on Higher Education*. Cambridge, MA: Harvard University Press. (pp. 161-185)

Suskie, L. A. (1996). *Questionnaire survey research: What works* (2nd ed.). Tallahassee, FL: Association for Institutional Research. [pp. 51-59]

Unit #11: Qualitative Designs and Methods

4/4/11 – 4/10/11

[Guest Speaker: Dorie Evensen]

[Guest Speaker: Lisa Lattuca]

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [pp. 235-240, 248-252, & 295-308]

Howard, R., & Borland, K. (2007). The role of mixed methods approaches in institutional research. In Howard, R. (Ed.) *Using mixed methods in institutional research*. (pp. 2-8) Tallahassee, FL: Association for Institutional Research.

Trosset, C. (2007). Qualitative research methods for institutional researchers. In Howard, R. (Ed.) *Using mixed methods in institutional research*. (pp. 9-21) Tallahassee, FL: Association for Institutional Research.

Optional Reading

Krathwohl, D.R. (2009). *Methods of Educational and Social Science Research*. 3rd Edition. Long Grove, IL: Waveland Press. [pp. 313-323]

Unit #12: Presenting/Reporting I

4/11/11 – 4/17/11

[Guest Speaker: Patrick Terenzini]

Clagett, C., (1990). Interpreting and presenting data to management. *Association for Institutional Research Professional File*. Number 36.

Bers, T & Seybert, J. (1999). *Effective Reporting*. Tallahassee, FL: Association for Institutional Research. [pp. 8-31]

Sanders, L., & Filkens, J. (2009). *Effective Reporting*. 2nd edition. Tallahassee, FL: Association for Institutional Research. [pp. 1-7 & 13-18]

Volkwein, J. (2009) Reporting research results effectively. In J. Volkwein (Ed.) *Assessing Student Outcomes: Why, Who, What, How? New Directions for Institutional Research*, Assessment Supplement, 2009. [pages 155-163] San Francisco: Jossey Bass.

Unit #13: Presenting/Reporting II

4/18/11 – 4/24/11

Bers, T & Seybert, J. (1999). *Effective Reporting*. Tallahassee, FL: Association for Institutional Research. [pp. 78-85]

Sanders, L., & Filkens, J. (2009). *Effective Reporting*. 2nd edition. Tallahassee, FL: Association for Institutional Research. [pp. 43-56]

Tufte, E. (1997). Visual explanations: Images and quantities, evidence and narrative. [Chapter 2: Visual and statistical thinking: Displays of evidence for making decisions (pp. 27-53).]

Wainer, H. (1984). How to display data badly. *The American Statistician*, 38(2), 137-147.

Optional Reading

Cleveland, W. (1994). *The Elements of Graphing Data*. Murray Hill, NJ: AT&T Bell Laboratories. [Assigned Pages TBA]

Tufte, E. (2001). *The visual display of quantitative information*. 2nd edition.

Wainer, H. (1992). Understanding graphs and tables. *Educational Researcher*, 21(1), 14-23.