

Quantitative methods

OBJECTIVES AND OUTLINE OF THE COURSE

The objectives of the course are twofold. First, students will be introduced to the basic concepts of measurement and sampling. Then, students will get familiar with some elementary methods of data analysis.

REQUIRED READINGS

- Singleton & Straits** Singleton, R. A. Jr. and Bruce C. Straits (1999): *Approaches to Social Research*. Third Edition. Oxford University Press: New York/Oxford.
- Das Gupta** Das Gupta, P. *Standardization and decomposition of rates. A user's manual*. <http://www.census.gov/popest/research/p23-186.pdf>, pp. 1-7
- Bickel et al.** P. J. Bickel, E. A. Hammel and J. W. O'Connell (1975): Sex Bias in Graduate Admissions: Data from Berkeley, *Science*, Vol. 187 no. 4175 pp. 398-404
- Huff** Darrel Huff (1993): *How to lie with statistics*, W. W. Norton & Company

WEEKLY SCHEDULE

| Week | Topics | Reading | Date | Alt. date |
|------|--|------------------------------|-------------|-------------|
| 1. | Introduction. Measurement. | - | 2/8 | 2/8 |
| 2. | Validity, reliability. Research design | Singleton & Straits, Ch. 5. | 2/15 | 2/15 (x2) |
| 3. | Measurement errors | Singleton & Straits, Ch. 10. | 2/22 | 2/15 (x2) |
| 4. | Sampling designs | Huff, Ch. 1. | 3/1 | 3/1 (x2) |
| 5. | The theory of probability sampling | Singleton & Straits, Ch. 6. | 3/8 | 3/1 (x2) |
| 6. | Sample size determination | Singleton & Straits, Ch. 6. | - | 3/1 (x2) |
| 7. | Midterm exam | - | 3/22 | 3/22 |
| 8. | Descriptive statistics | Huff, Ch. 2. | 3/29 | 4/5 (x2) |
| 9. | Correlation | Singleton & Straits, Ch. 14. | 4/5 | 4/5 (x2) |
| 10. | Introduction to the Lazarsfeld paradigm | Huff, Ch. 8. | 4/12 | 4/12 (x2) |
| 11. | The Lazarsfeld paradigm | Bickel et al. | 4/19 | 4/12 (x2) |
| 12. | Standardization and decomposition of rates | Das Gupta | 4/26 | 4/26 (x2) |
| 13. | Data visualization methods | - | 5/3 | 4/26 (x2) |
| 14. | Final exam | - | 5/10 | 5/10 |

ASSESSMENT

Students are expected to read the relevant textbook chapter each week and participate in the discussions. The final grade is computed by 50% mid-term exam and 50% final exam.

Exams consist of several quiz and 1-2 longer essay questions. No make-up exams provided.