Review Topics for Incoming Graduate Students

Microeconomics

1. Mathematics for Microeconomics - N&S Chapter 2
2. Preference and utility - N&S Chapter 3
3. Utility maximization and choice - N&S Chapter 4
4. Income and substitution effects - N&S Chapter 5
5. Uncertainty and Information - N&S Chapter 7

Macroeconomics

1. Constrained optimization I: First order conditions - S&B Chapter 18, and C&W Chapters 11-12.
2. Constrained optimization II - S&B Chapter 19

Mathematics

1. One-variable calculus - S&B Chapters 2-4, and C&W Chapter 6
2. Exponents and logarithms - S&B Chapter 5, and C&W Chapter 9
3. Introduction to linear algebra and matrix algebra - S&B Chapters 6-9, and C&W Chapters 4-5.

Statistics

1. Sets, Numbers, and Proofs - S&B Appendix A1.
2. Integral Calculus - S&B Appendix A4.
3. Introduction to Probability - S&B Appendix A5.

Suggested additional readings

Game Theory for Applied Economists, by Robert Gibbons, Princeton University Press, Princeton, NJ, 1992.
A more recent alternative to Gibbons' textbook is *Game Theory: An Introduction*, by Steven Tadelis, Princeton University Press, Princeton, NJ, 2013.

Legend:

N&S = Nicholson, Walter and Christopher Snyder. *Microeconomic Theory: Basic Principles and Extensions*, Thomson Southwestern, 2007.
S&B = Simon, Carl P. and Lawrence Blume. *Mathematics for Economists*, W.W. Norton & Company, New York, 1994.
C&W = Chiang, Alpha C. and Kevin Wainwright. *Fundamental Methods of Mathematical Economics*, McGraw-Hill Irwin, New York, 2004.