



Syllabus for SG 284: Rationality - OLLI at AU - Fall 2022 Wednesdays at 11:45 AM, beginning September 21

Below is the Table of Contents of *Rationality: What it is, Why It Seems Scarce, Why It Matters* by Steven Pinker, published in September 2021. The classes in this course are keyed to chapters in the book. Our first class will cover the Preface and Chapter 1; each week we will cover a subsequent chapter; and our last class will cover chapters 10 and 11.

***Rationality*, by Steven Pinker – Table of Contents:**

1. How Rational an Animal

- **Three Simple Math Problems**
- **A Simple Logic Problem**
- **A Simple Probability Problem**
- **A Simple Forecasting Problem**
- **The Moral from Cognitive Illusions**

2. Rationality and Irrationality

- **Reasons for Reason**
- **Stop Making Sense?**
- **Conflicts among Goals**
- **Conflicts among Time Frames**
- **Rational Ignorance**
- **Rational Incapacity and Irrationality**
- **Taboo**
- **Morality**
- **Rationality about Rationality**

3. Logic and Critical Thinking

- **Formal Logic and Formal Fallacies**
- **Formal Reconstruction**
- **Critical Thinking and Informal Fallacies**
- **Logical versus Empirical Truths**
- **Formal versus Ecological Rationality**
- **Classical versus Family Resemblance Categories**
- **Logical Computation versus Pattern Association**

4. Probability and Randomness

- **What Is Randomness? Where Does It Come From?**
- **What Does “Probability” Mean?**
- **Probability versus Availability**
- **Cognitive, Disjunctive, and Conditional Probabilities**
- **Prior and Post Hoc Probabilities**

5. **Beliefs and Evidence (Bayesian Reasoning)**
 - **Base Rate Neglect and the Representative Heuristic**
 - **Priors in Science and the Revenge of the Textbooks**
 - **Forbidden Base Rates and Bayesian Taboo**
 - **Bayesian after All**
6. **Risk and Reward (Rational Choice and Expected Utility)**
 - **A Theory of Rational Choice**
 - **How Useful is Utility**
 - **Violation the Axioms: How Irrational?**
 - **Rational Choices after All?**
7. **Hits and False Alarms (Signal Detection and Expected Utility)**
 - **Signals and Noises, Yeses and Nos**
 - **Costs and Benefits, and Setting a Cutoff**
 - **Sensitivity versus Response Bias**
 - **Signal Detection in the Courtroom**
 - **Signal Detection and Statistical Significance**
8. **Self and Others (Game Theory)**
 - **A Zero Sum Game: Scissors-Paper-Rock**
 - **A Non-Zero Sum Game: The Volunteer's Dilemma**
 - **Rendezvous and Other Coordination Games**
 - **Chicken and Escalation Games**
 - **The Prisoner's Dilemma and the Tragedy of the Commons**
9. **Correlation and Causation**
 - **What is Correlation?**
 - **Regression to the Mean**
 - **What is Causation?**
 - **From Correlation to Causation: Real and Natural Experiments**
 - **From Correlation to Causation without Experimentation**
 - **Multiple Causes, Adding and Interacting**
 - **Causal Networks and Human Beings**
10. **What's Wrong with People?**
 - **Motivated Reasoning**
 - **The Myside Bias**
 - **Two Kinds of Belief: Reality and Mythology**
 - **The Psychology of Apocrypha**
 - **Reaffirming Rationality**
11. **Why Rationality Matters**
 - **Rationality in Our Lives**
 - **Rationality and Material Progress**
 - **Rationality and Moral Progress**

The principal reason for organizing the course this way is to help you understand each chapter of the book (which is recommended, not required reading). *Rationality* grew out of a college course, and its components and sequence have been well thought out. But many matters are not intuitive and require some reflection before one can comfortably understand them. We will look at questions and subjects that go beyond the scope to the book – as much as possible in context.