Module I: History
- Information processing approach
  - Input-processing-output
- Empiricism
- Associationism
- Role of sensation in learning
- Helmholtz measures speed of neural impulse
- Wundt’s reaction time studies (chronometer)
- William James and Functionalism
- Gestalt
- Ebbinghaus, Father of Memory
- Watson, Skinner, Pavlov, and Behaviorism
  - Empiricism!
  - Methodology
- Tolman’s “Cognitive maps in rats and men”
- Clustering in recall (Bousfield)
- Miller’s magic number 7 ± 1
- Signal vs. Noise
- Representation + Process
- Top-Down vs. Bottom-Up processing
- Cognitive Science

Module II: Attention
- Focus vs. Monitoring
- Fate of unattended information?
- Bottleneck theories
  - Broadbent’s Y-tube Analogy (flap)
- Cherry’s shadowing experiment
- Mowbray: text comprehension listening and reading two different stories
- Cocktail party phenomenon (Moray)
- Role of semantic content (Grey & Wedderburn, 1959)
- Treisman’s shadowing studies
- Early vs. Late selection Theories
- Role of working memory (MacKay)
- Capacity model (Kahneman)
- Automatic vs. Controlled processing
- Automatic vs. Strategic Tasks
- Reading (Stroop)
- Skill acquisition (see book)
- Serial vs. Parallel search in proofreading
- Benefits and pitfalls of automaticity
- Priming (Neely)
- Reason’s Slips of action
  - Open-loop vs. Closed-loop
Module III: Perception

- Constructed vs. Directed
- Top-Down vs. Bottom-Up Processing
- Introspectionism (Wundt)
- Eye tracking data
- Template Theory
  - Pattern Variation
- Feature Theory
- Biderman’s Recognition by Components Theory (see book)
- Illusory Conjunctions
- Pritchard’s feature decay/adaptation
- Hubel & Wiesel
- Treisman’s Feature Integration Theory
  - Serial vs. parallel search
  - pop-out phenomenon
  - Role of attention (reaction times)
  - Context
- Gestalt principles
- Categorical Perception
- Phonemic Restoration Effect (Warren, 1970)
- Word Superiority Effect (Reicher, 1969)
- blindsight
- Subliminal Perception
  - Objective vs. Subjective Threshold
- Face Recognition
  - Bruce & Young’s Model (1986)
  - Structural Encoding, Expression Analysis, Directed Visual Processing,
  Face Recognition Person Identity Nodes, Name Recognition Nodes.

Module IV: Representations (Schemata)

- Dual Codes (verbal vs. acoustic)
- What is a schema? (see book)
  - Characteristics
  - Default Knowledge
  - How are they formed?
    - Developmental
  - What do they do?
- Balloon passage (Bransford & Johnson, 1973)
- What is a script?
- Psychological reality of schemas (Bower, Black & Turner, 1979)
- Letter confusions (Conrad, 1964)
- Tip-of-the-Tongue (see book)
- Spoonerisms & Malopropisms
- Text comprehension
  - Verbatim vs. Gist
  - Sentence representations (John caught/ate the mouse)
  - Bridging Inferences
  - Role of schemas in inferencing (Listerine)
  - Rumelhart’s Story Grammar
    - Situational vs. Text Models
Module V: Representations (Visuospatial/Imagery)
- Picture Memory
- Paivio's Dual Code (verbal vs. imaginal)
- Concrete vs. Abstract words
- Selective Interference (Brooks, 1968)
- Mental Rotation (Shepard & Metzler, 1971)
- Feature Judgments (Kosslyn, 1976)
- Symbolic Distance Effect (Kosslyn, Ball, & Reiser, 1978; Moyer, 1973)
  - Generality?
  - Demand characteristic?
- Analog vs. Propositional (Pylyshyn, 1973)
- Face Task (see book)
- Neuroimaging Evidence (Roland & Friberg, 1985; Farah et al., 1984; 1988)
- What vs. Where system

Module VI: Representations (Categories)
- Importance of categories
- Cognitive Economy
- Broadness vs. Inferrential Power
- Function of categories (Bruner, Goodnow, & Austin, 1956)
- Vertical Aspects of Categories: Superordinate, Basic, Subordinate levels
  - Preferred level of abstraction
  - Converging Operations for Basic Level
    - Appearance: Shape similarity (Rosch et al., 1976)
    - Motor programs
    - Communication: Labeling & Verification
    - Development: Child lexicon, grouping
    - Language: Early Differentiation, Zipf's Law, ASL
- Horizontal Aspects of Categories
- Classical View
  - Necessary & Sufficient
- Disjunctive categories (e.g., strike)
- Sapir-Whorf (Whorfian) Hypothesis
- Codability affects memorability (Brown & Lennenberg, 1954)
- Order of color terms is regular (Berlin & Kay, 1969)
- Focal vs. Non-Focal Colors (Rosch, early 1970s)
- Category boundaries
- Typicality & Family Resemblance
  - Converging Operations for Typicality
    - RT's to category judgments
    - Naming & Identification
    - Priming
    - Word Frequency
- Barsalou’s ad-hoc or goal-directed categories
  - Ideals