Course Review
Exam Information

• Time: Dec. 2, 5 PM (Tuesday)
• Duration: 2 hours
• Format:
  – Multiple choice (20 questions, 40 points)
  – Short and long answers (6 questions, 60 points)
  – Total: 100 points
• One A4-sized sheet with any form of notes
Topics

• The 5-step approach for the experimental design

• Statistical analysis
  – Normal distribution
  – Central limit theorem
  – t-Test
  – ANOVA
  – Interaction effect
Topics

- Human Memory and Cognition
- GOMS and KLM analysis
- Modal human processor
- Fitts Law
- Hick’s Law
- Power Law of practice
Experimental Design and Analysis

• Understand the 5 step approach to define an experiment
• Understand the different type of variables
  – IV, DV, Controlled, Random, and Confounding Variables
• Understand the concept of counterbalancing and its strategies
Experimental Design and Analysis

• Understand the property of normal distribution and how to use it to make predictions
• Understand the central limit theorem
• Understand degree of freedom
Experimental Design and Analysis

• Understand the basics of t-Test, ANOVA; how are they calculated, and their differences
• Understand when to apply the different types of t-Test and ANOVA
• Understand the purpose of post-hoc tests and how to apply adjustments
• Understand interaction effect
Human Memory and Cognition

• Understand the difference of the different type of memory systems
• Understand how information is encoded in our brain
• Understand the reasons we forget information
• Understand the basics of system 1 and system 2 thinking
• Understand the different biases
GOMS & KLM

• Understand the definition of GOMS & KLM
• Understand how to perform a KLM analysis
• Understand how the mental operator in KLM is determined
• Understand the limitations of GOMS & KLM
MHP, Fitts Law, Hick’s Law, Power Law of Practice

• Understand the basic concept of MHP
• Understand the definition of Hick’s Law, Fitts Law, Power Law of Practice and how to apply them
• Read the only readings for the class