The TA will hold a review session for the third exam on Thursday, April 13, 7:00 - 8:00 pm in Lilly G424.

The exam will include 25 multiple choice questions worth 2 points each, and 5 short answer questions worth 10 points each. Total points on the exam is 100. This exam makes up 20% of your class grade.

You are responsible for knowing both the material in the textbook and in lecture. The exam will draw from both sources.

You should not need a calculator for this exam.

At the end of each chapter in the textbook there are study questions. I will use these for creation of multiple choice questions. The questions will be drawn from the following:

- For all chapters, you do not need to worry about any of the questions related to the “Across the senses and plasticity” or “Brain scan” parts of the text. You are only responsible for the questions related to the main text.

- Chapters 8 and 9: you are only responsible for the odd numbered questions (e.g., 1, 3, 5, 7,...).

- Chapter 10: you are only responsible for the questions whose numbers are multiples of three (e.g., 3, 6, 9, 12, 15,...).

- Chapter 11: you are responsible for the odd-numbered study questions (e.g., 1, 3, 5, 7,...).

Of course, you may have to know the material from other study questions in order to answer these particular questions, but this is a way to focus your studying efforts.

In addition, the short answer questions will be drawn from the material below. This material was discussed in the lectures, but much of it is also discussed in the textbook.

**Lecture 23: Motion perception**

1. Describe the stimulus used to create apparent motion. Explain how the perceptual experience changes with the timing between stimuli.

2. Explain how a Reichardt detector (not the kind discussed in the textbook) detects motion in a particular direction.

**Lecture 24: Motion perception**

1. Discuss some of the difficulties in motion organization. Focus the discussion on either the aperture problem, or on apparent motion.

2. Discuss the influence of eye movements in motion perception.

3. Why does an afterimage appear to move as you move your eyes?
Lecture 25: Flow fields

1. Explain what a flow field is. Give two examples of what a flow field would look like for two situations.

2. What is the focus of expansion in a flow field? Explain how it could be used to guide behavior.

Lecture 26: Action and perception

1. What information does \( \tau \) (tau) provide? How is \( \tau \) computed?

2. How do we know that flow fields influence how people behave in an environment? Give two examples.

Lecture 27: Stimulus-response

1. Describe the Simon Effect experiment, including the stimuli, task, and typical results.

Lecture 28: Sound

1. Describe the use of the term decibel as a measurement of sound amplitude. Give the mathematical formula and explain the terms.

2. What does Fourier analysis demonstrate about complex sounds?

Lecture 29: Auditory physiology

1. Sketch (roughly) the audibility curve and explain what it tells us about human hearing.

2. Describe the basic anatomy of the auditory system. Explain how sound transfers from one part to the next, up to the basilar membrane.

3. Describe the structure and function of the organ of Corti as it responds to sound stimuli.

Lecture 30: Auditory Physiology

1. Describe the place theory for coding frequency on the basilar membrane. Be sure to discuss the traveling wave and the wave envelope.

2. How do tuning curves and auditory masking studies consistent with the place theory for coding frequency?

Lecture 31: Sound localization

1. Describe two ways the auditory system estimates azimuth location of a sound source.

2. Explain how the auditory system estimates elevation location of a sound source.

3. Describe two ways the auditory system estimates distance of a sound source.

4. Describe the precedence effect on sound source location.

Lecture 32: Sound quality

1. Explain why a recording of a piano played backwards does not sound like a piano.

2. Describe two methods used by the auditory system to achieve auditory stream segregation.