

Sensory Systems Basics and Principles II – Questions and Answers

Lecture: Color Vision (05.07.2010)

1. Visible light is a small part of the electromagnetic (EM) spectrum. Name at least four other classes of EM radiation.

2. Who proposed the trichromatic theory of color vision? (Two names!)

3. What is the principle of univariance?

4. Which statement is incorrect?
 - a) Color vision is mediated by cones.
 - b) Black and white vision is mediated by rods.
 - c) Three different cone types can be found in the human retina.
 - d) Rhodopsin is found exclusively in rods.

5. The opponent theory suggests that there are three opponent channels.
____ versus ____
____ versus ____
____ versus ____

6. The absorption spectra of isolated cones differ from in vivo measurements. Why?

7. Why will anomalies in L and M cone pigments always manifest in males but not in females?

8. What does the term Tritanopia describe?

9. Which system is phylogenetically younger: The rod system or the cone system?

10. Which bipolar cell does not exist?
 - a) L cone OFF
 - b) L cone ON
 - c) S cone OFF
 - d) S cone ON
 - e) M cone OFF
 - f) M cone ON