RUTGERS
UNIVERSITY | NEW BRUNSWICK

Sensation & Perception
Course Intro

01:830:301 Spring 2026

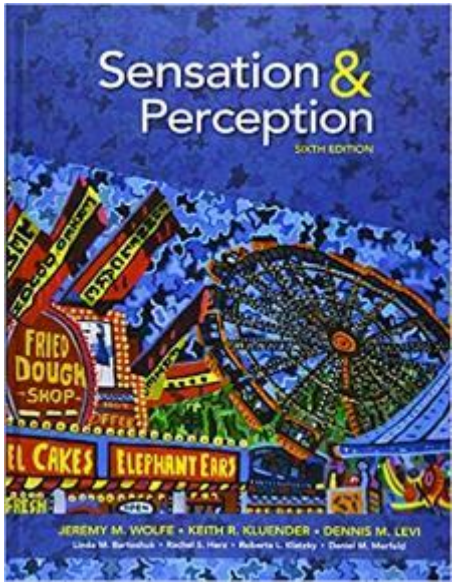
Course Objectives

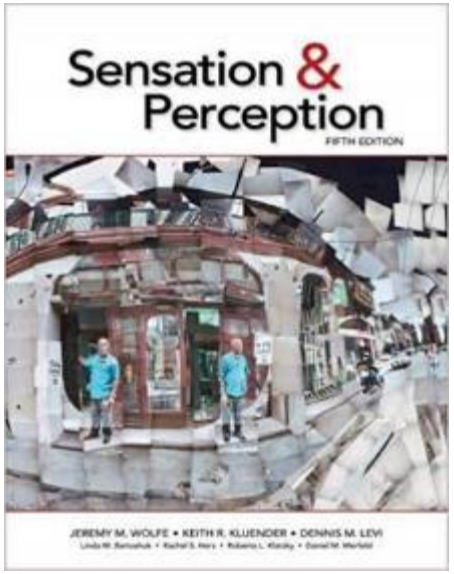
- We tend to think of our ability to perceive the world via our senses as an automatic process, and to take it for granted
- However, perception is a complex, active process that must solve difficult computational problems
- In this course, I will try to give you a sense of the problems our perceptual systems must solve and how they accomplish them. By the end of this course you should have a good understanding of
  - The physical basis of perceptual information
  - The physiological processes by which this information is converted to sensations and to percepts in the brain
  - The functional problems that our perceptual systems have evolved to solve
  - The methods and tools involved in the scientific study of sensation and perception

Course Materials

- **Textbook**: Sensation & Perception *6th Ed.* (Wolfe, Kluender, Levi, et al., 2020)

  ISBN: 978-1605359724
  - 5th (or even 4th) Ed. should also be okay, as is the new 7th edition
  - Additional readings posted on Canvas.
  - Check course schedule on the syllabus and complete associated readings *before* class.





Course Requirements

- Lecture attendance and participation (up to10% of grade)
  - Come to class!!!
  - Do assigned readings
  - Ask questions
  - Participate in class discussions

- Exams (90%)
  - 2 midterm exams each worth 30%
  - 1 final exam worth 30%
  - All three exams will be topical (not comprehensive). However, some material will necessarily carry over from one exam to the next

Sensation & Perception

To start, what's with the title of this course?

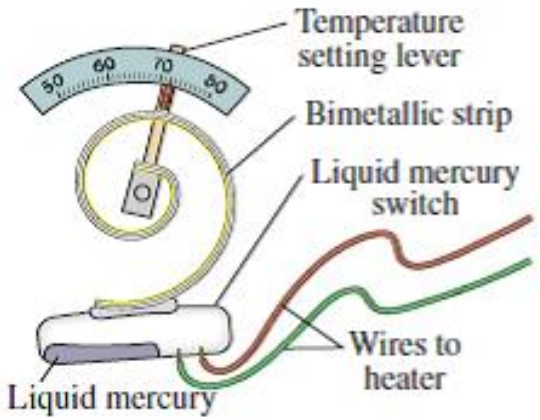
- Why sensation & perception?
- Aren't these the same thing?
- What's the difference?

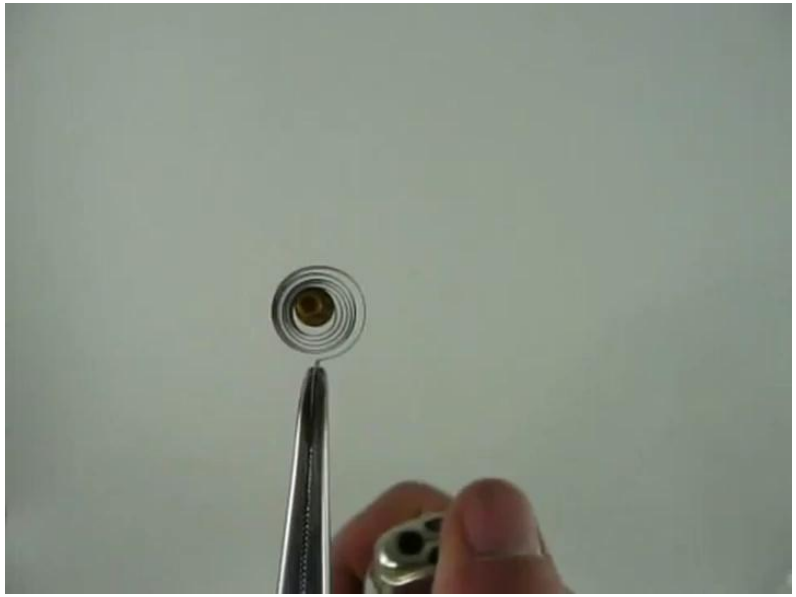
What is sensation?

- Example: thermostat (old-fashioned type)

What is sensation?

- Example: thermostat (old-fashioned type)
- How does it work?





What is sensation?

- **Sensation** is the ability to detect a change or difference in physical signals (i.e., energy)
- In our example, the sensor is the bimetallic strip, and the sensation is a change in temperature
- Fundamentally, sensation is just **signal transduction**, the conversion of one form of physical energy to another.

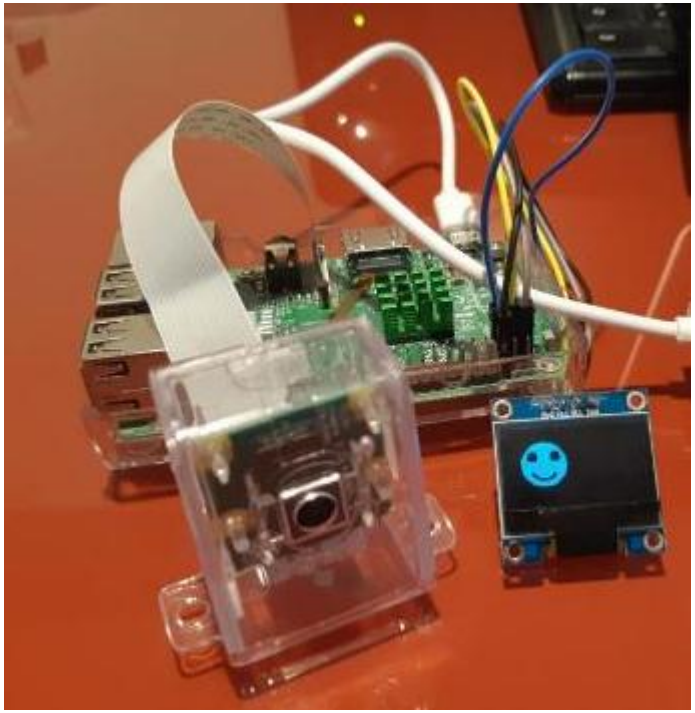
What is perception?

- That's easy, perception is just the interpretation of sensations (sense data) right?

- For example, sensors in the eyes detect patterns of light that the brain then perceives (interprets) as a smiling face.

What is perception?

- How about a face sensor/detector?



neutral face 

right eye closed 

left eye closed 

smiling face 

- Is this doing sensation or perception?