**Chapter 3**

**VISUAL SYSTEM: The Eye**

Assignment 1

This set of questions works well as a group homework assignment, but may also be assigned in class or on a class forum. Included are sample instructions to provide to students. Ask them to email their suggested answers ahead of time to make sure they are on the right track.

Email me your suggested answers by Tuesday, and identify your top three choices. I will assign one of these for you to present in class. First come, first served. Be prepared to present on Friday, January 23.

* Explain why tail lights are red – how does that color help the driver following see at night?
* Why are the blue headlights on some cars a really bad idea?
* What is different about looking at red LED clock lights at night and blue LCD lights at night? Why?
* Take a red object and a blue object outside. View as dusk falls to twilight. What changes happen in them and why?
* Why can you write out words with sparklers at night?
* Why can’t you watch a regular television outside during the day?
* What are crucial factors in deciding the size of dots that make up computer screens?
* What environmental conditions make it hard to see electronic displays in cars and why?

Assignment 2

This may be done as a homework assignment. Answers may be handed in, brought to class, or posted on a forum.

Use [ISLE 3.11.a](http://isle.hanover.edu/Ch03Eye/Ch03Kuffler.html) and [ISLE 3.11b](http://isle.hanover.edu/Ch03Eye/Ch03CntrSurContrast.html) to understand how the center-surround receptive fields operate to detect contrast. How do they respond when their receptive field is filled? Why?

Assignment 3

If you wear any form of correction, glasses or contacts, determine both the type and strength of your correction. What does this indicate about your vision without your correction?