Midterm 2

- Thur Nov 1, in class

- Read the textbook, other articles posted, and lecture notes
  - see syllabus for textbook pages
  - NOT lab material
  - NOT cumulative

- Critical thinking
  - Analyzing experiments, interpreting data

- 20% of grade for Term 1
Midterm

- **Arrive early** – you will need the full 75 minutes.
- 9:30 sharp to 10:45 sharp

- Use a pencil for Scantron

- Spread out. Do not sit next to each other.
- Keep your eyes on your own exam.

- Put away everything except a pencil. No papers, no pencil cases, no headphones etc. Bring photo ID.

- ****Stop writing when the time is done. If you do not, points will be deducted, in fairness to the other students.*****
Midterm

• Write your name (clearly) on exam & Scantron!
  • Last name
  • First name
  • Student ID

• Use the correct side of the Scantron!

• Multiple choice: 60 questions, 2 points each
• Short answer: 1 question, 20 points
  • Experimental design, proposing an experiment
Midterm

• **Use your time wisely.**

• Read the question. Make sure you understand the question before you answer.
Academic misconduct

• Will be treated very seriously.

• This includes writing past 10:45 am, when the exam is over.
Make-up exams

• Only for validated medical reasons
• Must contact me and submit documentation ASAP (within 24 hours)

• Make-ups will be oral exams (75 minutes) in presence of professor & TA
Regrading exams

• Written request for regrades. Need to explain why you think the exam should be regraded.

• I reserve the right to regrade the entire exam (not just a particular question), which means that your grade could go down upon regrading.
Short answer question

I’ll state a hypothesis, describe a study to test the hypothesis, and give the results of that study.

• Main conclusions – in relation to the hypothesis (4 pts)

• Identify & explain one strength of the experimental design (5 pts)

• Identify & explain one weakness/limitation of the experimental design (5 pts)
  – with respect to testing the hypothesis

• Describe one follow-up experiment to further test this hypothesis. A study not described in lecture or in textbook. Include control groups and predictions. Use your creativity! (6 pts)
Short answer question

• DO NOT list multiple strengths and weaknesses!

• State one strength and one weakness – and explain each well.

• “One strength is…”

• “One weakness is…”

• Write legibly and in full sentences.
Researchers hypothesized that calling in male crickets is regulated by a neural circadian clock. Researchers caught male crickets in the wild and then placed each cricket in a small individual enclosure in a lab. Each enclosure was kept at 21°C and was light-tight, had its own incandescent light bulb on a timer, a microphone, food, water, and cork insulation to reduce external sounds. Crickets were randomly assigned to be exposed to either constant light (LL) or 12L:12D (n=10 subjects per group). Consider the 12L:12D group as the control group. These graphs show data from one cricket on LL and one cricket on 12L:12D, but results were similar for other subjects in each condition.

a. What are the main conclusions from this experiment, in relation to the hypothesis? Explain. (4 pts)

b. What is one strength of the experimental design? Explain. (5 pts)

c. What is one weakness/limitation of the experimental design? Explain. (5 pts)

d. Describe one follow-up experiment to further test this hypothesis in crickets (a study not described in lecture or in textbook). Include control groups and predictions. Use your creativity! (6 pts)