First exam: mean = 145
Midterm exam: mean = 171

Break-up of points for project write-up
(170 pts total)

Abstract (40 pts)
- One-two paragraph summary of the entire project.
- Someone should be able to understand the abstract without referring to the rest of the paper.
  - It should contain:
    1) the purpose of the study
    2) a brief statement of what was done
    3) a brief statement of what was found
    4) brief conclusions and general significance

No subheadings, No references, nothing external to abstract
It should be very similar to the abstracts of the papers that you read for your project

Introduction, Methods, and Discussion (100 pts), of those:

1) What is your question?
   Identify the question that you investigated (20)

2) Why it is interesting? Why do we care?
   Elaborate on why you think that this question was interesting and worth pursuing, cite appropriate references (20)

3) What did you/the authors do to answer the question and why?
   Explain in details the hypotheses and predictions that you examined/tested, cite appropriate references (20)

   Do not use these headings in your paper!

4) What did you/the authors find?
   Describe what you found. What data did you accumulate, what conclusions you have drawn from these data. Do the conclusions agree with the predictions? Did you find support for your hypotheses? Explain. (20)

5) What has been done in this area?
   Describe how your results and conclusions are related to previous research that has been done in this area – cite relevant references. What are the prevalent hypotheses and explanations for the question that you have investigated? Why? (20)

Note: In sections above 1/3 of the grade can be for English grammar and style.

References (30 pts), of those:

- In the text of your paper (15)
- Reference list [only reference papers you cite] (15)

References for the final write-up should be listed in alphabetical order using the format in the syllabus.
**Break-up of points for oral presentation (100 points total)**

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ECTD 310 | Animal Form & Function  
DEADLINE PROJECTS: 25 points - 4 points per project 
(NOTE: failures to submit the project due at the end of term will result in a 4 point deduction) 
Date: 4/7/2019

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Every presentation:

Prepare 3 potential questions for the Final Exam based on your research topic and presentation. List them in a last slide of your PowerPoint.

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**Final project presentations to start next week…**

**Why do male and female grebe dance after the pairing?**

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**Neurosensory Perception of Environmental Cues Modulates Sperm Motility Critical for Fertilization**

Katherine Mehta,1* (Moina B. Hong),1 Jennifer R. Popov,1* Ashley Brown,1 Jack Wilson,1,2,3,4,5 Michael J. Anderson,2* (Michael A. Miller,2*),2,4,5

Environmental exposure affects genitalia function and fertility and the mechanisms are poorly understood. Here we report that exposure to a complex mixture of estrogen and estrogenic compounds increases the fertilization rate of male mice. The mechanism by which estrogen exposure increases the fertilization rate was shown to be mediated by the female neural androgen receptor.
Egg and oogenesis:

1) The egg and its composition

2) Formation of gonads

3) Oogenesis

4) Maturation of oocyte

The egg

All the materials necessary for the beginning of growth and development must be stored in the ovum (mature egg).

Developing egg – the oocyte – conserves the material it has and is actively accumulating more. The meiotic divisions of the oocyte conserve its cytoplasm.

Cell retains most of the cytoplasm

Polar bodies – a little more that a haploid nucleus

The egg

1) Proteins & Lipids

Long time before embryo can feed itself or obtain food from its mother. Provides supply of energy and amino acids. Lipids, proteins made elsewhere (liver, etc) and travel to forming egg.
Overlap of development and consequences for sex-specific allocation to eggs

Dr Tobias Uller