Syllabus – Endocrinology (Bio 110)
Fall 2018

Instructor: Professor L. Michael Romero
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Office Hours: Fridays: 2:30-3:45
Robinson 350

Office Hours:
Wednesdays 2:30-3:30
Or by Appointment (email is usually better)

Meeting Time:
Block E+ (Mon and Wed 10:30-11:45) in Anderson 206

Textbook:
Vertebrate Endocrinology-5th Edition by Norris & Carr

Grading:
2 Midterm Exams = 60% (30% Each)
Poster Presentation = 30%
Poster Critiques = 10%

Exams will not be cumulative (although mastery of basic concepts will be assumed) and the poster will serve as the final. Test information will come mostly from class, but information in the text related to class presentations is fair game.

Seminar = 4% deduction
The Biology Department hosts a seminar from 4:00-5:00 every Friday afternoon in Robinson 253. You will be required to attend two of these lectures during the semester – which ones entirely up to you. Attendance will not be graded, but 2% will be deducted from your final grade for each seminar that is missed. An email should be sent to me after each seminar with 1 sentence on what the seminar was about, and 1 sentence on something you found interesting, surprising, or confusing. I especially recommend the lecture by Prof. Crossin on Oct. 26.

The Blog: This semester, Brenna Gormally, a graduate student in my laboratory, will be posting a weekly blog about her research. This is required reading. The blog will culminate in a short lecture near the end of the semester, and there will be a question about the blog on the exam.

Daily Topics:
1. Sept. 5
   General Principles of Endocrinology
   What are hormones, types of release, homeostasis and feedback, causative vs. permissive, organizational vs. activational
   Reading: pg. 1-15,

2. Sept. 10
   Techniques for Studying Endocrinology
   Rhythms, Extirpation/replacement, RIA, etc.
   Reading: pg. 23-32
3. Sept. 12 Finish Techniques: Scatchard Analysis
   Reading: pg. 32-39
   General Principles of Endocrinology – Peptide Hormones
   Reading: pg. 43-48
4. Sept. 17 General Principles of Endocrinology
   Peptide Hormone Receptors, Steroids, and prostaglandins
   Reading: pg. 48-80 and; 85-88
5. Sept. 19 The Hypothalamic-Pituitary System I
   Anatomy, Tropic Hormones
   Reading: pg. 93-109
6. Sept. 24 The Hypothalamic-Pituitary System II
   Tropic hormone regulation: TRH, GnRH, & Prolactin
   Reading: pg. 109-126
7. Sept. 26 The Hypothalamic-Pituitary System III
   Tropic hormone regulation: ACTH & GH
   Reading: pg. 126-133
8. Oct. 1 The Hypothalamic-Pituitary System IV
   Vasopressin, Oxytocin, & Melatonin
   Reading: pg. 133-146
9. Oct. 3 Thyroid Hormones I
   Biochemistry and Mechanisms of Action
   Reading: pg. 80-85; 207-217
   Oct. 8 Indigenous People’s Day – No Class
10. Oct. 9 Thyroid Hormones II
    Biological functions
    Reading: pg. 217-218; 221-228; 248-250
    Catch Up from first 9 lectures
11. Oct. 10 Exam Review
12. Oct. 15 1st Midterm
    Spermatogenesis, Testicular function
    Reading: pg. 333-339
    Ovarian cycles, Pregnancy, Lactation
    Reading: pg. 329-333; 339-357
    Vitellogenesis, Sex determination, Clinical Diseases
    Reading: pg. 319-323; 365-370; 375-377; 379-383
    Oct. 26 Crossin Seminar – Robinson 253
16. Oct. 29 Reproduction IV: Seasonal Breeding
    Metabolism I – The Endocrine Pancreas
    Pancreatic Anatomy, Insulin and Glucagon
    Reading: pg. 463-472
    **Hormone chosen for final project**
17. Oct. 31 Metabolism II – Pancreatic Functions
    Metabolism, Gluconeogenesis, Diabetes, Feeding
    Reading: pg. 474-477; 563-570
18. Nov. 5 Gastrointestinal Hormones
    Pepsin, Gastrin, Secretin, and Cholecystokinin
    Reading: pg. 449-463
19. Nov. 7 Calcium and Phosphate Homeostasis
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<tr>
<th>Date</th>
<th>Event / Assignment</th>
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<tbody>
<tr>
<td>Nov. 12</td>
<td>Veteran’s Day – No Class</td>
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<td>20. Nov. 14</td>
<td>Adrenal Steroids</td>
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<td>Adrenal anatomy, Aldosterone, Adrenal Medulla</td>
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<td></td>
<td>Reading: pg. 41-42; 261-264; 273-279; 282-287</td>
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<td><strong>Summary due for final project</strong></td>
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<tr>
<td>21. Nov. 19</td>
<td>Stress I</td>
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<td>Glucocorticoids and Catecholamines</td>
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<td>Reading: pg. 264-273; 280-282; 472-474</td>
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<td>- Nov. 21</td>
<td>Thanksgiving Break – No Class</td>
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<td>Project: Self-study on how excessive eating alters hormone release</td>
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<td>22. Nov. 26</td>
<td>Stress II</td>
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<td>23. Nov. 28</td>
<td>Blog Wrap-up and Review</td>
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<td>24. Dec. 3</td>
<td><strong>2nd Midterm</strong></td>
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<td>25. Dec. 5</td>
<td><strong>All Posters Due</strong> Posters Presentations – Group 1</td>
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<td>26. Dec. 10</td>
<td>Poster Presentations – Group 2</td>
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