

Syllabus – Endocrinology (Bio 110)

Fall 2011

Instructor: Professor L. Michael Romero phone: 7-3378
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Office Hours: Wednesdays 1:00-2:00 Office: Barnum 118A
Or by Appointment (email is usually better)

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

Textbook: Vertebrate Endocrinology-4th Edition by D. Norris

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.

Daily Topics:

1. Sept. 7 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. 12 Techniques for Studying Endocrinology
Extirpation/replacement, RIA, etc.
Reading: pg. 30-45
3. Sept. 14 General Principles of Endocrinology – Peptide Hormones
Reading: pg. 52-72
4. Sept. 19 General Principles of Endocrinology
Steroids, catecholamines and prostaglandins
Reading: pg. 47-51 and 72-103
5. Sept. 21 The Hypothalamic-Pituitary System I
Anatomy, Tropic Hormones
Reading: pg. 106-124
6. Sept. 26 The Hypothalamic-Pituitary System II
Tropic hormone regulation
Reading: pg. 124-149
7. Sept. 28 The Hypothalamic-Pituitary System III
Tropic hormone regulation; Vasopressin, and Oxytocin
Reading: pg. 149-154
8. Oct. 3 Melatonin and Thyroid Hormones I

- Biochemistry and Mechanisms of Action
Reading: pg. 154-164, 221-237
9. Oct. 5 Thyroid Hormones II
Biological functions
Reading: pg. 237-242, 259-265
- Oct. 10 Columbus Day – No class
10. Oct. 12 Adrenal Steroids
Adrenal anatomy, Aldosterone, Adrenal Medulla
Reading: pg. 272-278, 283-288, 292-295
11. Oct. 17 **1st Midterm**
12. Oct. 19 Reproduction I – Males
Spermatogenesis, Testicular function, Sex Differentiation
Reading: pg. 335-341
13. Oct. 24 Reproduction II – Females
Ovarian cycles, Pregnancy, Lactation
Reading: pg. 341-356
14. Oct. 26 Current Research in Endocrinology
15. Oct. 31 Reproduction III – Comparative Aspects
Vitellogenesis, Sex determination, Clinical Diseases
Reading: pg. 322-335, 356-368, 371-374, 376-380
16. Nov. 2 Reproduction IV: Seasonal Breeding
Metabolism I – The Endocrine Pancreas
Pancreatic Anatomy, Insulin and Glucagon
Reading: pg. 415-423, 450-461
- Hormone chosen for final project**
17. Nov. 7 Metabolism II – Pancreatic Functions
Metabolism, Gluconeogenesis, Diabetes, Feeding
Reading: pg. 444-450, 461-468
18. Nov. 9 Gastrointestinal Hormones
Pepsin, Gastrin, Secretin, and Cholecystokinin
Reading: pg. 432-444
19. Nov. 14 Calcium and Phosphate Homeostasis
Parathyroid hormone, Calcitonin
Reading: pg. 486-500
20. Nov. 16 Field Endocrinology
- Summary due for final project**
21. Nov. 21 Stress I
Glucocorticoids and Catecholamines
Reading: pg. 278-283, 289-296
- Nov. 23 Thanksgiving Break – No Class Project: Self-study on how excessive eating alters hormone release
22. Nov. 28 Stress II
23. Nov. 30 Degu Endocrinology
24. Dec. 5 **2nd Midterm**
25. Dec. 7 Poster Presentations
26. Dec. 12 Poster Presentations