Faculty of Science and Engineering
Department of Biology

Course: BIOL 4320 Vertebrate Endocrinology

Term: Fall

Calendar description: Vertebrate endocrine structure and function; synthesis and regulation of hormones; mechanisms of hormone actions and hormonal integration of physiological processes. Three lecture hours. One term. Three credits.

Prerequisite/corequisite: SC/BIOL 2020 4.0; SC/BIOL 2021 4.0; one of SC/BIOL 2030 4.0, SC/BIOL 2031 3.0.

Degree credit exclusions: AS/SC/KINE 4448 3.0.

Course instructor:

Dr. Chun Peng
416-7362100X40558
Farquharson 333
cpeng@yorku.ca
Office hours: Wed 2-4pm

Time and location: M, W 11:30–13:00, ACE003

Course webpage: http://www.yorku.ca/cpeng

Expanded course description:

Organization of the course:
The course involves formal lectures by the instructor and several guest lectures on special topics.

Learning objectives:
Upon successful completion of the course students will be able to:

1. Describe basic principles and concepts of Endocrinology
2. Understand approaches to endocrine research.
3. Describe mechanisms of hormone actions.
4. Understand how hormones regulate various physiological processes.
5. Develop the ability to critically analyze research articles.
6. Understand the consequence of dysfunction of hormones.

Additional readings may be assigned or recommended during the course.
**Evaluation:**

Midterm test = 25%
Critical review = 15%
Presentation = 15%
Final exam = 45%

**Exams:** Exams will be in-class, consisting of several question types (multiple choices, short and long answers), and will be designed to assess your understanding of lecture materials and ability to apply what you learn to solve problems.

**Critical review/presentation:** The review will be a critique of an article recently published in an endocrine journal. You can select your own article to evaluate and write a 3-page critique. You will also prepare a 7-min powerpoint presentation of your review and present it in the class.

Note: Final course grades may be adjusted to conform to Program or Faculty grades distribution profiles.

**Policies:**

**Missed tests:** Students with a documented reason for missing a test, such as illness, compassionate grounds, etc, which is confirmed by supporting documentation, may request accommodation from the course director. Make-up exams will be scheduled for students who miss the exams for a valid reason. Further extension or accommodation will require students to submit a formal petition to the faculty.

**Assignment submission:** Reviews must be handed in by 5:00pm of the due date to the course director’s office. No email submission will be accepted. The penalty for late submission is 1 point (out of the 15 points) deduction per day. Exception to the lateness penalty for valid reasons such as illness, compassionate grounds, etc, may be entertained by the course director but will require supporting documentation.

**Student conduct:** Once class has started, students should not use cell phones or carry out conversations.

**Academic integrity:**

Students are expected to be familiar with and follow York University’s policies regarding academic integrity. Please consult the website below for more details: http://www.yorku.ca/academicintegrity/students.htm

**Accommodation Statement:**

Students who feel that there are extenuating circumstances that may interfere with their ability to successfully complete the course requirements are encouraged to discuss the matter with the Course Director as soon as possible.
Students with physical, learning or psychiatric disabilities who require reasonable accommodations in teaching style or evaluation methods should discuss this with the Course Director early in the term so that appropriate arrangements can be made.

**Planned course topics and schedules:**

- Introduction to Endocrinology
- Endocrine Methodology
- Mechanism of Hormone Actions
- Brain and Pituitary Hormones
- Melatonin
- Hormonal Regulation of Calcium Metabolism
- Gastrointestinal hormones
- Pancreatic hormones
- Thyroid hormones
- Adrenal hormones
- Growth hormones
- Reproductive hormones
# Biol 4320 Vertebrate Endocrinology - Fall 2008

**Course Director:**  
Dr. Chun Peng  
416-736-2100 ext 40558  
openg@yorku.ca

**Time and location:**  
M, W 11:30 - 13:00  
ACE003

**Grading:**  
Mid-term: 25%  
Review/Presentation: 30%  
Final exam: 45%

**Office Hours:**  
Mon and Wed 1:30-3:30pm or by appointment

**Remediation plan (Important!)**

**Guideline for the review/critique paper**

**Course Outline**

**Suggested Articles**

## Lecture Topics and Schedules

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Sept 3, 8</td>
<td>Introduction</td>
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<tr>
<td>Sept 10</td>
<td>Endocrine methodology</td>
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<tr>
<td>Sept 15, 17</td>
<td>Mechanism of hormone action</td>
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<tr>
<td>Sept 22, 24, 29</td>
<td>Brain and Pituitary Hormones</td>
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<tr>
<td>Oct 1</td>
<td>Rosh Hashanah, No class</td>
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<tr>
<td>Oct 6</td>
<td>Melatonin</td>
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<td>Oct 8</td>
<td>Hormonal control of calcium homeostasis</td>
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<tr>
<td>Oct 13</td>
<td>Mid-term review</td>
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<tr>
<td>Oct 15</td>
<td>Thanksgiving, no class</td>
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<tr>
<td>Oct 20</td>
<td>Gastrointestinal hormones</td>
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<td>Oct 22</td>
<td>Pancreatic hormones and diabetes</td>
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<td>Oct 27</td>
<td>Adipokines, hormones and obesity- Justin Cresser</td>
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<tr>
<td>Oct 29</td>
<td>Heart as an endocrine organ- Benjamin Reingold</td>
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<tr>
<td>Nov 3</td>
<td>Thyroid hormones, Growth Hormones</td>
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<tr>
<td>Nov 3</td>
<td>No Class, please come to the seminar if you are interested:</td>
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<tr>
<td></td>
<td>Dr. Michelle Lactate's seminar</td>
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<td>&quot;Pathways regulated by the TGF-beta superfamily receptors, Endoglin and ALK1, and defective in vascular&quot;</td>
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<td>Date</td>
<td>Topic</td>
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<tr>
<td>Nov 5</td>
<td>Adrenal hormones</td>
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<td>Feb 2, 4</td>
<td>Reproductive Hormones</td>
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<td>Feb 9</td>
<td>Hormones and cancer-Jenny Zhang Endocrine disruptors-Amole Navpreet</td>
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<td>Feb 11</td>
<td>review</td>
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<td>Feb 16</td>
<td>Family day, no class</td>
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<tr>
<td>Feb 18</td>
<td>Presentations, review Review paper due</td>
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