

University of Toronto Scarborough – Department of Biological Sciences
BIOD27 – Molecular Endocrinology – Fall 2018

Course Instructor: **Dr. Jason Brown**
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Office: Portable 104, Room 110
Office Hours: Thursdays 1:30-4:30pm
Fridays 8:30-11:30am

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Course Description: A lecture/seminar/discussion class on contemporary topics in endocrinology. The course provides a basic knowledge of endocrine systems encompassing hormone biosynthesis, metabolism, and physiologic actions. Signal transduction from growth factors and their receptors will be emphasized. Specific topics and advances in hormone and growth factor research will be examined.

Prerequisites: (BIOB30H3) or BIOB34H3 or BIOC32H3

Recommended Preparation: BIOC33H3 or BIOC34H3

Lectures: Tuesdays 3:10-6pm, AA206

**NOTE: In Weeks 5–12, the last 75 minutes of lecture (4:45pm-6pm) will be used for debates.

Tentative Lecture Topics:

- 1 – Fundamental Principles of Endocrinology
- 2 – Hypothalamus-Pituitary Axis
- 3 – Thyroid Gland
- 4 – Adrenal Cortex
- 5 – Adrenal Medulla
- 6 – Sexual Development
- 7 – Male Gonads
- 8 – Female Gonads
- 9 – Gut-Brain Axis
- 10 – Pineal Gland

Lecture notes will be posted (in PowerPoint format only) on Quercus at least 24 hours before each lecture. NOTE: I reserve the right to make changes to the lecture notes after they are posted.

Textbook: There is no textbook for this course. Only content covered in lecture will be subjected to examination. References for any studies discussed will appear on the lecture slides so that, if desired, students can read these studies further on their own time. This is not required, however.

The following books are available electronically through the UTSC Library and could be a good resource for anyone looking to supplement the lectures:

Endocrinology: An Integrated Approach (2001) by S. Nussey and S. Whitehead.

Molecular Endocrinology (3rd edition; 2004) by F. F. Bolander, Jr.

Evaluation:

Each student's evaluation scheme in this course depends upon the number of debates that their debate team wins over the course of the semester, as follows:

| Number of Debate Wins | 0 | 1 | 2 | 3 | 4 |
|-----------------------|-----|-----|-----|-----|-----|
| Best Term Test | 30% | 30% | 25% | 25% | 20% |
| Worst Term Test | 10% | 5% | 5% | 0% | 0% |
| Debates | 5% | 15% | 25% | 35% | 45% |
| Debate Evaluations | 10% | 10% | 10% | 10% | 10% |
| Final Exam | 45% | 40% | 35% | 30% | 25% |

Important Notes Regarding Evaluations:

Term Tests

There are two Term Tests in this course, which will be held outside of class time. The dates and times of the Term Tests will be determined by the Registrar's office during the first few weeks of the semester, and I will post this information on Quercus as soon as it is available.

Term Tests may cover any material covered in this course, but the lectures emphasized on each Term Test will be announced in class and on Quercus. Term Tests will be 2 hours and will comprise of short answer questions only. Students will be evaluated based on the reasonableness, clarity, and conciseness of their written answers to the questions. Students will have some choice with regards to which questions they answer (e.g., answer 1 of 2 short answer questions). **The Term Test questions will require students to think critically and creatively about the lecture content as students will be expected to explain novel observations and solve problems. This reflects my belief that undergraduate students need to develop not only their scientific knowledge but, more importantly, their competency for thinking, reasoning, and scientific inquiry. Some questions may also require that students utilize knowledge gained from other biology courses, which reflects that, as senior biology students, you should be capable of synthesizing concepts from various biological disciplines.**

To help students prepare for Term Tests, at the end of every week, an optional quiz (here optional means not worth any marks) will be posted on Quercus. Students are strongly encouraged to discuss these quizzes with the course instructor when they encounter any difficulties, either by email or during office hours (preferred).

If you know in advance that you cannot write a Term Test at the scheduled time because it conflicts with some other valid activity, please notify me as soon as possible so that we can plan for you to write the Term Test at an alternative time. Any such alternative time must be **before** the scheduled date of the Term Test.

If you miss a Term Test due to medical illness, then you must submit a detailed UTSC Medical Certificate filled out by the physician who saw you on the day of the Term Test. This note must be submitted to the course instructor as soon as possible following the Term Test, whether in person or via email. Other medical notes will not be accepted, and if the UTSC Medical Certificate is not completed to the satisfaction of the course instructor, it may be refused. The UTSC Medical Certificate can be found via the following link:

http://www.utsc.utoronto.ca/~registrar/resources/pdf_general/UTSCmedicalcertificate.pdf.

If you miss a Term Test for any other valid reason, please consult with the course instructor as soon as possible. The course instructor will determine whether the reason given for a missed Term Test is valid in accordance with university policies. Also, the course instructor may ask for any documentation required to verify the reason given.

Students who miss one Term Test for a valid reason (medical or otherwise) will not be permitted to write a make-up Term Test; rather, the weight of their remaining Term Test will be increased to the full value allotted for Term Tests based on their debate wins (see Evaluation). Students who miss both Term Tests for valid reasons will not be permitted to write make-up Term Tests; rather, the weight of their Final Exam will be increased to the full value allotted for Term Tests and Final Exam based on their debate wins (see Evaluation).

Students who miss a Term Test for any invalid reason will receive a grade of zero for that Term Test.

Debates

During the third class, students will form debate teams consisting of 5 members. (Larger or smaller team sizes will only be permitted if dictated by enrolment; there will be 8 debate teams in total.) Students will remain on the same debate team throughout the entire semester. Each debate team must submit a team name and roster.

Each debate team will participate in four, 30-minute debates throughout the semester. These debates will be held in class (i.e., 4:45-6pm) during weeks 5-12. A debate schedule will be completed during the third class. In creating this schedule, a lottery system will be employed, where team names will be pulled from a hat and, as their names are pulled, teams will select a debate time.

After the debate schedule is finalized, and at least one week before a particular debate is scheduled to occur, the two debating teams must select a resolution for their debate. The resolution can be chosen from the list provided by the course instructor (only one debate/resolution will be permitted; first come, first served) or the teams can submit their own mutually-agreeable resolution, which must be approved by the course instructor and/or teaching assistant. All

resolutions must be related to the course topic (endocrinology), must have some broader societal implication(s), and must be debatable.

The format of each debate will be loosely based on the “Parliamentary Debate” model. A guide to the “Parliamentary Debate” model (modified to be suitable for this course) will be provided via Quercus, and students are expected to consult this guide to ensure they know the debate structure and rules. Links to example debates using a similar format will be posted on Quercus so that students can become familiar with the general format before their first debate.

For a debate to commence, each debate team must have at least three members (because, as outlined in the guide, only three members from each team will be permitted to speak in a given debate; the non-speaking members may contribute to the debate by taking notes, crafting rebuttals, etc.).

In the event that a debate team has fewer than three members present at the start of their assigned debate, all members of the team will be credited with a debate loss. The course instructor will then substitute for the debate team and the debate will proceed.

In the event that one member of a debate team fails to show up at the start of their assigned debate, the members of the team in attendance can decide whether to proceed or not. If they choose to proceed, and win, they can decide whether to extend credit for the win to the absent member or not. (E.g., if a team member contributed to debate preparation but was sick on the day of the debate, the team may decide that the member still merits credit for the win.) If they choose not to proceed, the team will be credited with a loss and the course instructor will substitute for the debate team, and the debate will proceed.

IMPORTANT NOTE: The debates in this course will be subject to the University of Toronto’s “Statement on Freedom of Speech” (which has been posted on Quercus). Students are expected to read this statement before participating in any debates in this course.

Debate Evaluation

Each debate will be judged, independently, by two other debate teams (called the “judging teams” for this purpose), who will be tasked with deciding which team has won the debate. Judging teams must choose a winner; draws (ties) are not a permissible outcome. The judging teams must submit their decision in writing via Quercus within one week of the completion of the debate. The written decision should be approximately 500 words and should outline the judging team’s justification for their decision.

The teaching assistant will review the decisions after they have been submitted.

First, the teaching assistant will decide whether the justification for the decision is sufficiently thorough (i.e., the judging team has clearly outlined the rationale for their decision). If not, the teaching assistant will notify the judging team that their decision is unacceptable in its current form and needs revision. In this case, the judging team will have 48 hours to submit a revised decision.

Second, upon receiving two acceptable decisions from the judging teams, the teaching assistant will determine who won the debate. If both judging teams have selected the same debate team as the winner, then that debate team will be adjudged as the winner. If the judging teams have selected different debate teams as the winner, then the teaching assistant will decide which written decision is more compelling and that debate team will be adjudged as the winner. The teaching assistant will post both written decisions, as well as a brief justification of adjudgement, where necessary. In cases where one judging team fails to submit an acceptable written decision within the allotted time, the debate team chosen by the other judging team will be adjudged as the winner. In cases where both judging teams fail to submit an acceptable written decision within the allotted time, the teaching assistant will decide which team won the debate and will write a short written justification for the decision.

At least three members of the judging team must be present throughout the debate (i.e., from start to finish) in order for the judging team to serve its role. In the event that a judging team fails to maintain this quorum at any point throughout the debate, or in the event that a judging team fails to submit its original written decision within one week of the debate, the judging team will be considered to have not judged the debated.

Each judging team will be assigned to four debates. (This will be done during the third class, after the debate schedule has been completed.) In order for a judging team to receive the full marks allotted for debate evaluation, they must successfully judge all their assigned debates. (“Successfully judge” means that they were present, as outlined above, and their written decisions were deemed acceptable by the teaching assistant, where initially or following revision, within the allotted time.) If a judging team does not successfully judge all their assigned debates, they will 0% for debate evaluations.

If any members of the judging team are absent during their assigned debate, the members of the team in attendance can decide whether to extend credit for the judging to the absent members or not. (E.g., if a team member is absent during the debate, but helps with editing the written decision, the team members may decide that the member still merits credit for their contribution.)

Final Exam

The Final Exam (3 hours) will be scheduled by the Registrar’s office (December 7-22). The Final Exam will cover all material covered in the lectures throughout the course, though it will place considerable emphasis on the material covered since the last Term Test. It will have the same format and emphases as the Term Tests.

Accessibility Needs:

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, please feel free to approach me and/or the AccessAbility Services Office as soon as possible. I will work with you and AccessAbility Services to ensure you can achieve your learning goals in this course. Enquiries are confidential. The UTSC AccessAbility Services staff (located in S302) are available by appointment to assess specific needs, provide referrals and arrange appropriate accommodations (416) 287-7560 or ability@utsc.utoronto.ca.

Academic Integrity:

Academic integrity is essential to the pursuit of learning and scholarship in a university, and to ensuring that a degree from the University of Toronto is a strong signal of each student's individual academic achievement. As a result, the University treats cases of cheating and plagiarism very seriously. The University of Toronto's *Code of Behaviour on Academic Matters* (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>) outlines the behaviours that constitute academic dishonesty and the processes for addressing academic offences. Potential offences include, but are not limited to:

In papers and assignments: -using someone else's ideas or words without appropriate acknowledgement
-submitting your own work in more than one course without the permission of the instructor
-making up sources or facts
-obtaining or providing unauthorized assistance on any assignment.

On tests and exams: -using or possessing unauthorized aids;
-looking at someone else's answers during an exam or test
-misrepresenting your identity

In academic work: -falsifying institutional documents or grades
-falsifying or altering any documentation required by the University, including (but not limited to) doctor's notes.

All suspected cases of academic dishonesty will be investigated following procedures outlined in the Code of Behaviour on Academic Matters. There are other offences covered under the Code, but these are the most common. ***Please respect these rules and the values that they protect.***