Faculty of Sciences

ANAT-322 NEUROENDOCRINOLOGY, Winter 2025

Prerequisites: PHGY210

Class days and location: Tuesday and Thursday 4PM-5:30PM SADB room 2/36

Classes from January 7th, 2025 to April 10th, 2025, inclusive
Spring break: March 3rd-7th, 2025

Course coordinator: Claire-Dominique Walker,
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Office hours: on appointment
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Office hours: on appointment. Monitors discussion on MyCourses

Course Description/Overview: This undergraduate-level course is intended as an overview of the different neuroendocrine systems participating in homeostasis. Structure, functioning and integration of neuroendocrine systems are discussed.

Recommended Course Materials: Several books are available through McGill Library (McIntyre):
"Neuroendocrinology in Physiology & Medicine" edited by P.M. Conn and M.E. Freeman (1999),
"An introduction to Neuroendocrinology" by Richard Brown,(1994)
"Neuroendocrinology: an integrated approach" by D. Lovejoy (2005)
"Handbook of Neurochemistry and Molecular Neurobiology" by J.Blaustein, A. Lajtha (2006).
"Handbook of Neuroendocrinology" G. Fink, D. Pfaff, J.Levine Eds, AP (2012)
In addition, chapters relevant to specific lectures or block of lectures will be indicated by individual lecturers and supplemental lecture material might be provided at the time of the lecture.

Means of Assessment:

Title	Weight	Description	Due Date	Considerations and Late Penalties
Midterm Exam	40%	In person, multiple choice and long answer question	February 13th 6-7:30PM (M1 amphitheater, Strathcona)	Make-up exam to be held roughly one week later for students with a valid reason for missing the initial assessment.
Final Exam	50%	Non cumulative, multiple choice and long answer questions.	To be scheduled during the final exam period.	Missed final exams are handled by Service Point.

Quiz (3)	3 x 3.33% (10% total)	Online, multiple choice questions (10 questions/quiz)	One roughly every 3-4 weeks.	No make-up quiz, can miss one without penalty. If more than one missed, zero grade for missed quiz.

Assessments in this course are governed by the Policy on Assessment of Student Learning (PASL), which provides a set of common principles to guide the assessment of students' learning. Also see Faculty of Science-specific rules on the implementation of PASL.

Departmental Grading Policy: The Department of Anatomy & Cell Biology will NOT revise/upgrade marks except on sound academic grounds. Once computed, the marks in this course will NOT be altered/increased arbitrarily. Decimal points will be "rounded off" as follows: if the final aggregate mark is computed to be 79.5%, the mark will be reported as 80% (an A-); a final aggregate mark of 79.4% will be reported as 79% (a B+). These marks are FINAL and non-negotiable.

Departmental Midterm Exam/In-Course Assessment Deferral Policy: A midterm exam or other in-course assessment (i.e. quiz, assignment, paper, etc.) in a course administered by the Department of Anatomy & Cell Biology may only be deferred in the case of a **justified absence** due to serious illness or significant extenuating circumstances AND when **valid documentation** is received by the Course Coordinator within FIVE working days of the original midterm exam or due date.

If the deferral request is accepted by the Course Coordinator, students may be offered the possibility to write a deferred midterm exam which will be scheduled within 10 days of the original midterm exam.

Legally mandated academic accommodations are handled by Student Accessibility and Achievement. For more information see https://www.mcgill.ca/access-achieve/

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French written work that is to be graded. This does not apply to courses in which acquiring proficiency in a language is one of the objectives." (Approved by Senate on 21 January 2009)

Conformément à la *Charte des droits de l'étudiant* de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté, sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue. (Énoncé approuvé par le Sénat le 21 janvier 2009)

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures" (Approved by Senate on 29 January 2003) (See McGill's guide to academic honesty for more information).

In the event of extraordinary circumstances beyond the University's control, the content and/or assessment tasks in this course are subject to change and students will be advised of the change.

Class schedule:

January	7	Course introduction (10min)	D. Walker
		Functional anatomy of the neuroendocrine system	T. Stroh
	9	Hypothalamus, pituitary gland & neuroendocrine regulation	T. Stroh
	14	The magnocellular system, oxytocin, vasopressin	T. Stroh
	16	Oxytocin, pregnancy, lactation and the social brain	D. Walker

	21	Neuroendocrine control of reproduction I	D. Bernard
	23	Neuroendocrine control of reproduction II	D. Bernard
	28	Neuroendocrine control of reproduction III	D. Bernard
	30	Neuroendocrine control of reproduction IV	D. Bernard
February	3	**QUIZ 1** (on line **Mon Feb 3rd**, 7PM) material up to Jan 30th inclusive	
February	4	The adrenocortical axis	D. Walker
	6	Stress and glucocorticoids in the periphery and CNS	D. Walker
	11	Chronic stress and disease	D. Walker
	13	**No class MIDTERM EXAM (6-7:30PM, M1)**	
	18	Immune and neuroendocrine interactions I	D. Walker
	20	Stress and microbiome in pathology	D.Walker
	25	Hypothalamic control of food intake	M. Kokoeva
	27	Reward and plasticity in food intake	M. Kokoeva
March 3 - March 7		**Spring break (no class**)	
March	10	**QUIZ 2** (on line **Mon March 10**, 7PM) material up to Feb 27th inclusive	
	11	Brain stem circuits in energy balance control	P. Sabatini
	13	Regulation of growth hormone secretion	T. Stroh
	18	Somatostatin	T. Stroh
	20	Endocrine disruptors in neuroendocrinology I	T. Stroh
	25	Endocrine disruptors in neuroendocrinology II	T. Stroh
	27	Circadian rhythms and neuroendocrine regulation I	N.Cermakian
April	1	Circadian rhythms and neuroendocrine regulation II	N.Cermakian
	3	Neuroendocrine systems and Seasonal regulation	F. Storch
	7	**QUIZ 3** (on line **Mon April 7th**, 7PM) material up to April 3rd inclusive	
	8	Neuroendocrine control of the thyroid gland function I	TBD
	10	Neuroendocrine control of the thyroid gland function II	TBD
	14-30	**FINAL EXAM (regular exam session)**	