Department of Biology, University of Regina
Endocrinology – BIOL 390
Course Syllabus, Winter 2025

Territorial Acknowledgement:
The University of Regina is situated on the territories and homelands of the nêhiyawak, Anihšināpēk, Dakota, Lakota, and Nakoda, and is the homeland of the Métis/Michif Nation. We at the Regina campus are situated on Treaty 4 lands. I make this acknowledgement as a reminder that, as settlers, my family and I are fortunate to share this land with the peoples who existed here long before us and with all living creatures that occupy the land, water, and sky, both today and in the future. I also acknowledge that I have and continue to benefit from the hardship and injustices indigenous peoples have and continue to face.

Instructor:	Dr. R. Manzon	**Lectures:**	T R 8:30 am – 9:45 am
Phone:	337-2417	**Room:**	CL 317
Email:	richard.manzon@uregina.ca or via UR Courses		
Office:	RIC 219	**Office Hours:**	TBD; or by appointment

Course website:
https://urcourses.uregina.ca/login/index.php

This is an in-person course, and students are expected to attend lectures.

Lecture slides, when used, will be provided as PDF files via UR Courses the day before the lecture, when possible. Some lectures will be delivered as chalk/whiteboard talks without slides. Regular lecture attendance is strongly encouraged. Please note that the notes associated with the slides are copies of my notes, intended for me, that were distributed to students during the COVID pandemic. I continue to distribute these notes, but they do not represent 100% of the lecture content. Tests are based on lecture content and any readings I might assign.

Copyright Statement:
Images in the lecture are copyright-protected and reprinted with permission or are being used under a Creative Commons license specifically for this course. You are not permitted to modify or distribute them or any associated notes.

Accommodations:
Students in this course who may need specialized accommodations should contact the Centre for Student Accessibility (Riddell Centre 229, 585-4631) and must discuss their accommodation letter with their instructor.

Textbook resources: Recommended but not required

1. **Recommended but not required:**
   - **Goodman H.M. Basic Medical Endocrinology 4th or 5th ed. Elsevier**
2. **Melmed et al. (2011) William's Textbook of Endocrinology**
   - Library reserve
3. **DeGroot's Endotext – Free online text**
   - https://www.endotext.org/
   - Clinical focus
4. **Greenspan's Basic and Clinical Endocrinology (available online via U of R library)**
   - https://login.libproxy.uregina.ca:8443/login?&url=https://accessmedicine.mhmedical.com/book.aspx?bookid=2178
   - This book is clinical, but it is decent and free!

Grade distributions and important dates:

Tests and Final Exam	**Date and Time**	**Value**
Term Test # 1 (Units 1—3)	Thurs. Jan. 29, 2026 @ 08:30	27 %
Term Test # 2 (Units 4 – 5 and knowledge of 2-3)	Tues. March 3, 2026 @ 08:30	27 %
Final Exam Cumulative (Focus on Units 6-10)	Mon. April 21, 2025 @ 09:00	46 %
Total		100%
Special topic lectures i. TBD ii. TBD	 Thurs. Jan. 22, 2026 @ 8:30 Thurs. Mar 5, 2025 @ 8:30	Special topic lectures are testable material.

Participation: Lecture and Special Topic Discussions:

- I may occasionally assign short, required readings for in-class discussions and special topic lectures.
- Attendance for special topic lectures is required as they may involve class discussion or in-class activities.
- I hope to create a classroom environment where everyone feels comfortable and safe to contribute to the class through questions, answers and open discussion. However, verbal contributions are not the only form of participation. Regular, on-time attendance, engagement, and attentiveness during lectures and in-class discussions are also forms of involvement.

Missed tests and exams:

- I will not transfer marks from term tests to the final exam despite the comprehensive final examination.
    - Grades are very carefully distributed to ensure equal weight for each unit and lecture throughout the course.
- Term tests must be written as scheduled.
- If you miss a test, inform Dr. Richard Manzon within 24 hours of the scheduled date and time.
- My policy for missed term tests is the same as that for a missed final exam; deferred term tests will only be given for exceptional circumstances and may require documentation. Use of self-declaration of illness is permitted once during the term; official documentation will be needed for a 2nd missed term test.
- Deferred term tests are held on a fixed day and time as they will be proctored (invigilated) by the Faculty of Science. They are not scheduled at a mutually agreed-upon time. Missing a scheduled deferred term test will result in a grade of zero on that term test.
- Deferred final exams are granted by the Faculty of Science, as per University regulations, not by the course instructor.
- Deferrals of any type will not be granted for family vacations, weddings, or any other form of travel except for that which is related to a University of Regina-sanctioned collegiate sporting event. As per University policy, deferred tests are not granted for competitions or events associated with University or Regina clubs (e.g., softball, dance, etc) or clubs and sports teams not affiliated with the University of Regina.

Academic integrity

- Academic integrity requires students to be honest. Assignments and exams are to help students learn; grades show how fully this goal is attained. Thus, all work and grades should result from students' understanding and effort.
- Acts of academic misconduct violate academic integrity and are considered serious offences by the University. Examples include, but are not limited to, cheating on tests or exams, plagiarizing, copying from others, and falsifying lab results. Academic misconduct will be reported to an Associate Dean or Academic Integrity official in the Faculty of Science for further investigation. Full details are provided in the Undergraduate Academic Calendar. Students are encouraged to understand their obligations and rights.

Department of Biology, University of Regina

Professor Richard Manzon

Endocrinology – BIOL 390 Winter 2026

<u>Tentative</u> Lecture Outline

Unit	Tentative Lecture Topics	~ # of Lectures	Text Chapter	
			Goodman	Greenspan
1	Introduction to endocrinology and chemical signals.	1	1	
2	Fundamentals of hormone signalling: Receptors and response systems Mechanisms of hormone action Nuclear receptors Cell surface receptors & signal transduction	4	1	
3	Hypothalamic-pituitary (hypophysis) Axis Anatomy and blood supplies Adenohypophysis and Neurohypophysis Hypothalamic regulation of the hypophyses Special topic	4	2	4-6
4	Thyroid – 'a model endocrine system' The many regulators point from stimulating synthesis and secretion to molecular mechanisms of action. Development and growth	5	3	7
5	Regulation of Calcium and Phosphate Homeostasis Skeletal remodeling and development	4	10	8
6	Appetite regulation	1		
7	Neural and endocrine regulation of digestion	3	6	
8	Energy homeostasis – glucose as the central fuel Pancreatic hormones Adrenal / Thyroid hormones – Tentative topics	3	7-8	17-18
9	Steroid Hormones Nomenclature, Biosynthesis and Metabolism	1		
10	Adrenal Gland and its Hormones Adrenal Cortex and Medulla Regulation of Glucocorticoid Synthesis and Secretion Stress physiology	3	4	9
11	Male Reproductive System – Tentative topic	2	12	
12	Female Reproductive System – Tentative topic	3	13-14	
13	Special topics – See syllabus for dates	3		

BIOL 390 – 202610
Dr. Richard Manzon

Tentative Lecture Schedule
T R 8:30-9:45 am; Room-CL317

Department of Biology
University of Regina

January 2026

SUNDAY	MONDAY	TUESDAY	WED.	THURSDAY	FRI.	SAT.
28	29	30	31	1 New Year's Day	2	3
4	5	6 **Lecture #1** U1 - Introduction U2 – Fundamentals of Endocrine Signaling	7	8 **Lecture #2** U2 – Fundamentals of Endocrine Signaling	9	10
11	12	13 **Lecture #3** U2 – Endo Sig. Cont. U3 – Hypothalamic-Pituitary Axis (HP-axis)	14	15 **Lecture #4** U3 – Hypothalamic-Pituitary Axis	16	17
18	19 M L King Day	20 **Lecture #5** U3 – Hypothalamic-Pituitary Axis	21	22 **Lecture #6** U3 – HP-Axis cont. ? **Special Topic**	23	24
25	26	27 **Lecture # 7** U4 – Thyroid hormones (TH) Development/Growth	28	29 **Term test #1** **Units 1 - 3** 6 lectures 27% of final grade	30	31

BIOL 390 – 202610
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Tentative Lecture Schedule
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Department of Biology
University of Regina

February 2026

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SAT/
1	2	3 **Lecture # 8** U4 – Thyroid hormones (TH) Development/Growth	4	5 **Lecture # 9** U4 – Thyroid hormones (TH) Development/Growth	6	7
8	9	10 **Lecture # 10** U5 – Calcium & Phosphorus Metabolism	11	12 **Lecture # 11** U5 – Calcium & Phosphorus Metabolism	13	14
15	16 Family Day	17 Winter Break	18 Winter Break	19 Winter Break	20 Winter Break	21
22	23	24 **Lecture # 12** U5 – Calcium & Phosphorus Metabolism	25	26 **Lecture # 13** U6 – Appetite Regulation (Tentative)	27	28

BIOL 390 – 202610
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March 2026

SUNDAY	MONDAY	TUESDAY	WED,	THURSDAY	FRIDAY	SAT.
1	2	3 **Term test #2** **Units 4 and 5** 6 lectures 27% of final grade	4	5 **Lecture # 14** **Special Topic**	6	7
8	9	10 **Lecture # 15** U7– Digestion: Neural and Endo. Regulation	11	12 **Lecture # 16** U7– Digestion: Neural and Endo. Regulation	13	14
15	16	17 **Lecture # 17** U8 – Pancreatic Hormones and Energy Balance	18	19 **Lecture # 18** U8 – Pancreatic Hormones and Energy Balance	20	21
22	23	24 **Lecture # 19** U9 – Steroids U10 – Adrenal & Stress Physiology	25	26 **Lecture 20** U10 – Adrenal & Stress Physiology	27	28
29	30	31	1	2	3	4

BIOL 390 – 202610
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April 2026

SUNDAY	MONDAY	TUESDAY	WED.sNE	THURSDAY	FRIDAY	SAT.
29	30	31 **Lecture 21** U10 – Adrenal & Stress Physiology	1	2 **Lecture 22** U11 – Sexual Devel. and/or Male Reproductive System	3 Good Friday	4
5 Easter	6	7 **Lecture 23** U12 – Female Reproductive System	8	9 **Lecture 24** U12 – Female Reproductive System	10	11
12	13	14	15	16	17	18
19	20	21 **Final Exam: April 21, Time: 0900** **Location: CL 317** 46 % of final grade Emphasis on 12 lectures	22	23 **Final Exam is Cumulative** **≥70% on U6 – U12**	24	25
26	27	28	29	30	1	2