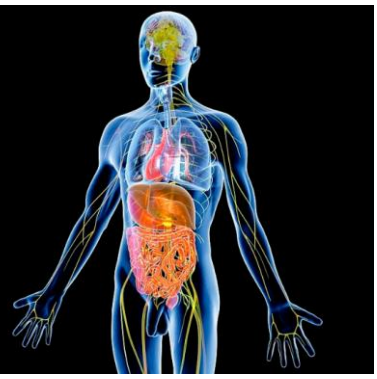
Graduate Medical Physiology II



MCP8042
Spring Semester 2021
Syllabus

Graduate Medical Physiology II is the second of a two-part course intended to provide a thorough introduction to human systems physiology at the level of first year medical school. The course will provide students with an understanding of the function, regulation and integration of human body organ systems, with emphasis on homeostatic maintenance in health as well as in some disease processes. The content of part II will cover respiratory, renal, acid-base, gastrointestinal, endocrine/reproductive and blood physiology. This course is primarily lecture based, but also includes problem-solving, group discussion, and online presentations.

Course Director John N. Lorenz, PhD (Email: lorenzjn@uc.edu)
Tel: 513-558-3046 • Office: MSB 4259

Instructors Dr. John Lorenz (Email: lorenzjn@uc.edu); Office hours: By appointment
Dr. Roger Worrell (Email: worrelrt@uc.edu); Office hours: By appointment
Dr. Aaron Marshall (Email: marshaao@uc.edu); Office hours: By appointment
Dr. Heather Christensen (Email: christht@ucmail.uc.edu); Office hours: By appointment
Dr. Bryan Mackenzie(Email: mackenb@uc.edu); Office hours: By appointment

Coordinator Emma Jones (Email: jones2ee@ucmail.uc.edu)

Registration

Course #	Section	Call #	Credits	Class Schedule*	Location
MCP8042	001		4 G	Variable	Variable

Assessment
Total = 175 pts

Class Quizzes (20 pts)	*20 scores used (Respiration: best 4; Renal/A-B: best 5; Endocrine/Reproduction: best 5; GI: best 4; Blood: best 2)* *1 point per quiz = 20 points*
Small Group Tests (25 pts)	*5 tests* *5 questions/points per test (×5) = 25 points*
Exam 1 (60 pts)	Multiple-choice exam covering respiration, renal and acid-base physiology
Exam 2 (70 pts)	Multiple-choice exam covering endocrine, reproduction, GI and blood

Grading Grading will be in line with CoM policy with no adjustment for the distribution of scores. There is no option for the remediation of grades after the scheduled final exams (i.e. no make-up test).

A	90%–100%	**B+**	82%–84.99%	**B–**	74%–76.99%	**C**	67%–69.99%
A–	85%–89.99%	**B**	77%–81.99%	**C+**	70%–73.99%	**Fail**	Below 67%

Also for a passing course grade*, the average for the two exams* must be greater than 67%.

Prerequisites Acceptance into Special Master's Program in Physiology & Graduate Medical Physiology I

Attendance Attendance is required

Auditing No auditing option

Blackboard & Email Policy Messages sent via Blackboard will be considered sufficient notice. You should make sure that you have entered your preferred email address in Blackboard under Tools → Personal Information → Edit Personal Information.

Textbooks Selected readings from the following textbooks will be required (avaialble online):

- *Medical Physiology,* Third Edition, Walter Boron and Emile Boulpaep (ELSEVIER)
- *Medical Physiology: A Systems Approach* (Lange Medical Books) Hershel Raff, Michael Levitzky

Course Content:

Unit 1: Renal-Respiration-Acid Base

Section 1: Respiration: structure & ventilation, gas exchange and transport, ventilation-perfusion, mechanics, control of breathing.

Section 2: Renal physiology: structure, filtration & clearance, tubular transport, salt & water balance, calcium/phosphate and bone, hydrogen ion balance, renal diseases.

Section 3: Acid-Base physiology: A-B disturbances and problem solving.

Unit 2: Endocrine/Reproduction, GI, Blood

Section 1: Endocrine/Reproduction: signaling, hypothalamus/pituitary, thyroid gland, steroids, adrenal gland, pancreas/glucose homeostasis/diabetes, puberty, male & female reproduction, pregnancy/lactation.

Section 2: Gastro-intestinal physiology: functional anatomy, stomach, pancreas, digestion/absorption, liver/gallbladder, salt and mineral absorption.

Section 3: Hemophysiology: hematopoiesis, hemostasis, iron metabolism.