

Human Physiology KINE 304
Course Outline, Spring 2022

Professor: Michael Deschenes, Ph.D.
Telephone: 221-2778
E-mail: mrdesc@wm.edu

Office: Adair 404A
Office Hours:
***best to e-mail to set-up meeting**

Course Description

This course is designed to introduce and familiarize students with basic concepts of human physiology. Following initial discussions on cell structure and function, physiology will be addressed at the organ and systems levels.

Course Objectives

Completion of this course will enhance the student's:

- 1) understanding of basic cell structure/function
- 2) appreciation of the function of human organs
- 3) understanding of the interactions of organs in different physiological systems
- 4) understanding of the manner in which the function of the human organism is dependent upon the appropriate function and interaction of physiological systems
- 5) appreciation of how disruptions of specific organs and/or systems lead to disease and illness

Required Textbook

Vander's Human Physiology, Widmaier, E.P., Raff, H., and Strang, K.T., 15th edition, McGraw Hill Inc., (2019). *Previous editions of the book are fine, just be sure chapter numbers still correspond with correct physiological topic as listed below.

*You can also purchase the on-line version of this book at marked cost reduction

Final grades will be based on the following:

Exam #1 = 30%

Exam #2 = 30%

Final Exam (comprehensive) = 40%

*Dates for the first 2 exams are not determined beforehand, but will announced in class at least 7 days beforehand

Schedule for Lecture Topics

- 1) Cell Structure (ch 3, section A [cell structure])
- 2) Movement of Molecules Across Cell Membranes (ch 4)
- 3) Homeostasis (ch 1)
- 4) Control of Cells by Chemical Messengers (ch 5)
- 5) Neuronal Signaling and the Structure of the Nervous System (ch 6, exclude section on neurotransmitters and neuromodulators [6.13], as well as neuroeffector communication [6.14])

Exam #1

- 6) Sensory Physiology (ch 7, sections 7.1 - 7.5)
- 7) Endocrine System (ch 11, sections 11.1 - 11.14)
- 8) Muscle (ch 9)

Exam #2

- 9) Cardiovascular Physiology (ch 12, *exclude* sections E and F)
- 10) Respiratory Physiology (ch 13)
- 11) Kidneys and Regulation of Water and Inorganic Ions (ch 14)
- 12) Digestion and Absorption of Food (ch 15; sections 15.1 - 15.4)

Final Exam (comprehensive)

Diversity Vision Statement: The Department of Kinesiology & Health Sciences places a high value on inclusiveness in order to create an optimal environment in which our students learn, and our faculty and staff carry out their professional responsibilities. We aim to faithfully support, and be fully consistent with the objectives and aims of the Diversity Plan of Arts & Sciences. Our definition and view of diversity is wholly compliant with that of Arts & Sciences. That is, we see diversity as encompassing variability in age, cultural identity, ethnicity, gender, faith, neurological characteristics, geographic background, political and ideological perspectives, race, sexual orientation, social and economic status, as well as military status.

Kinesiology Mental Health Statement: Mental health can pose significant challenges to student success at W&M, both in and outside of the classroom environment. The Kinesiology Department wants students to flourish during their time at W&M. If you are struggling with concerns, including, but not limited to, relationships, anxiety, alcohol or drug use, feeling down, trouble concentrating and/or lack of motivation, we hope you will reach out to campus resources, such as the Counseling Center, which is available for walk-ins during business hours and by phone after hours (757-221-3620). You can learn more about their services via this link <https://www.wm.edu/offices/wellness/counselingcenter/>