

GEORGE MASON UNIVERSITY: College of Health and Human Services

Course: GCH 555, Human Biology

Instructor: James Metcalf, Ph. D.,
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Catalog Description:

Provides an overview of the biological aspects of disease processes, with emphasis on the pathophysiology of common diseases and public health measures for the prevention and control of disease in populations.

Hours of Lecture or Seminar per week

3

Hours of Lab or Studio per week

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Class meets Monday, 4:30 – 7:10, in Robinson Hall #B124

Textbook: Mulroney, SE and AK Meyers. (2009). *Netter's Essential Physiology*, Philadelphia: Saunders/Elsevier.

Outline of Topics and Study (by week):

- 1 Introduction and course overview. The Cell and Fluid Homeostasis (1)
- 2 Membrane Transport. (2)
- 3 Nerve and Muscle Physiology (3)
- 4 The Somatic Motor System (6)
- 5 The Autonomic Nervous System (7)
- 6 Mid-term Examination
- 7 Heart, Circulation, Cardiac Electrophysiology (8 and 9)
- 8 The Cardiac Pump (11)
- 9 Peripheral Circulation (12)
- 10 O₂ and CO₂ Transport and Control of Respiration (15)

- 11 Regulation of Acid-Base Balance by Kidney (20)
- 12 Hepatobiliary Function (24)
- 13 Endocrinology. Pituitary and Hypothalamic Hormones (26)
- 14 Review
- 15 Final Examination

Note: In addition to the final and mid-term examinations, students may expect occasional “pop” quizzes. In addition to class participation, students will work in small study groups and also complete independent assignments on time. Here is the general weekly schedule:

Mondays: Class meets. Read chapter material prior to the class.

Thursdays: Submit completed worksheet from group study. (email)

Saturdays: Individual assignments due on video/animation.