



BIOL 489: Biomedical Physiology & Engineering

(Fall 2015)

I. Instructor and Course Information

Name:	Dean Wilkinson DVM
Class Location:	Weir 208
Class Days/Times:	Tuesday/Thursday 12:30-1:45pm
Office Location:	N/A
Office Hours:	By appointment
Phone:	835-5612
Email:	deanw@nmt.edu

II. Course Description: The course will cover normal physiologic mechanism involved in maintaining homeostasis and how environment, disease and we as engineers, physicians, and researchers can influence these physiologic systems. Without a good foundation in physiology interpreting, diagnosing, inventing, treating any area of medicine is extremely difficult if not impossible.

III. Course Learning Outcomes: By the end of the semester the student should be comfortable with the basic anatomic structures and physiologic mechanisms involved in temperature regulation, response to disease, light, altitude and diving physiology, discussed in class.

IV. Textbook and Materials There really is no one textbook that covers the subject matter completely. Suggested text includes one human and or animal anatomy and physiology text the text listed below is recommended supplemental reading material. The one highlighted in bold are strongly encouraged.

Principles of Animal Physiology 2nd edition Christopher D. Moyers, Patricia M. Schulte

**Visual Anatomy & Physiology, Martini, Ober & Nath, 1st edition*

Textbook of Medical Physiology, Guyton and Hall

Reproductive Physiology of Mammals Keith K. Schillo

Neuroscience third edition Mark F Bear et. al

Textbook of Veterinary Anatomy 4th edition Dyce, Sack, Wensing,

Survival of the Sickest, Dir., Sharon Moalem

The Origin of Feces, David Waltner-Toews

The Spark of Life, Frances Ashcroft

Sex at Dawn, Christopher Ryan & Cacilda Jetha
Zoobiquity, Barbara Natterson- Horowitz

Suggested Supplies:

Pencils & Pens

Paper

Highlighter

3-ring binder

Hole punch

Brain (required)

V. Grading

I'll be using the following grading scale: See point sheet

Course grades will be figured as follows:

Number	≥92	90-91	87-89	83-86	80-82	77-79	73-76	70-72	67-69	63-66	60-62	<60
Letter	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	F

Exams: Exams may be composed of one or more of the following: multiple choice, true/false, matching, short essay and labeling questions.

Homework, quizzes, etc.: *Homework* is based on the readings in the textbook, lectures and handouts, and may be composed of one or more of the following: multiple choice, true/false, matching, short essay and labeling questions. *Quizzes* are based on lecture material. They will be given at the beginning of class so be on time because there will be no make-up quizzes allowed. Several case studies will also be used to help students understand the principles.

Final Exam: The Final Exam will be cumulative. The Final Exam may be composed of one or more of the following: multiple choice, true/false, matching, short essay and labeling questions. The Final Exam cannot be counted as a drop exam. Depending on actual class size the final may be substituted with a 10 minute presentation on material covered and unique adaptation a selected species has Aquired to maintain homeostasis.

VI. Attendance

What if I miss a class?

Attendance is vital to passing this course! I understand, though, that life happens, and we sometimes have to miss class because of unforeseen circumstances. If you do miss class, you need to (1) contact me about missing class and (2) get as caught up as possible before returning to class. You cannot simply wait and come back to class asking “What did we do when I was absent; I did not know about.....” **You are responsible for what you missed**, including

assignments and any information, written or verbal, that I gave during class. Some things, like the case study or lab, cannot be made up due to the nature of the assignment. Quizzes cannot be made up.

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2. You have an excuse/circumstances deemed reasonable by me and documentation is provided Within a reasonable amount of time (doctor's note, etc.) if warranted.
3. You make up the exam before the next class period.

VII. Classroom Civility

Students are expected to contribute to a classroom environment that is respectful and conducive to learning. Inappropriate behavior in the classroom may result in a request to leave class and possible referral to the Dean of Students.

The nature of this subject lends itself to some potential issues, as such I ask that everyone remember we are adults in a higher educational environment and here to learn and broaden our horizons with both respect of other students and instructors and other ideologies and philosophies.

Classroom discussion is encouraged and a strategic part of the learning process of the class. Some topics are by nature controversial and potentially 'sensitive' areas of discussion. The purpose is to present these topics not to present of view point or believe but to open up the thought process in order to enhance learning, increase understanding, and instill excitement and enthusiasm on the subject. Discussion will be limited to relevant material and must be non-offensive in nature. This subject in particular still offers a lot of room for discovery and exploration with many widely held theories still unproven or under significant scrutiny. Many of the topics are presented as a means of encouraging thought and develop a new understanding of the material and topics presented.

VIII. Electronic Devices in Classes and Labs

Cell phones must be turned OFF or put on SILENT (NOT VIBRATE) during class. You may be allowed to keep it on vibrate during class if you are expecting an important phone call but you must notify me **before** class begins. Electronic entertainment devices are to be turned off and headphones/ear buds removed. **Do not text during class.** Abuse of this policy may lead to a request to leave class and/or disciplinary action. Use of electronic devices during exams will be considered possible methods of cheating so do not take out or use any kind of electronic device during exams.

IX. Honor Code: "On my honor I have not received nor given any unauthorized aid in completing assignments and requirements"

Those of you going to Vet School will operate under an honor code system most likely. Therefore I would like to introduce the principle here. Basically that means cheating in any form or fashion is not tolerated. It is up to you to be responsible and honest enough to assure that you and your fellow classmates are not cheating on any assignments or exams. Respect of fellow students, teachers, guests, time, materials, and personal items will be expected. You should all know right from wrong and be responsible enough to remain

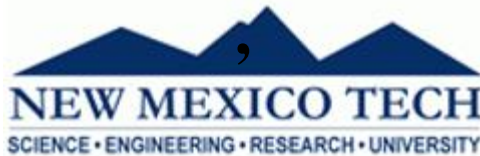
honest and courteous. If you are caught or questioned the appropriate administrative faculty members will be notified immediately.

Counseling and Disability Services

Reasonable Accommodations: New Mexico Tech is committed to protecting the rights of individuals with disabilities. Qualified individuals who require reasonable accommodations are invited to make their needs known to the Office of Counseling and Disability Services (OCDS) as soon as possible. In addition, New Mexico Tech offers mental health and substance abuse counseling through the Office of Counseling and Disability Services. The confidential services are provided free of charge by licensed professionals. To schedule an appointment, please call 835-6619.

Academic Honesty: New Mexico Tech's Academic Honesty Policy can be found starting on page 59 of the NMT catalog, http://www.nmt.edu/images/stories/registrar/pdfs/2013-2014_UNDERGRADUATE_Catalog_FINAL.pdf

You are responsible for knowing, understanding, and following this policy.



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