

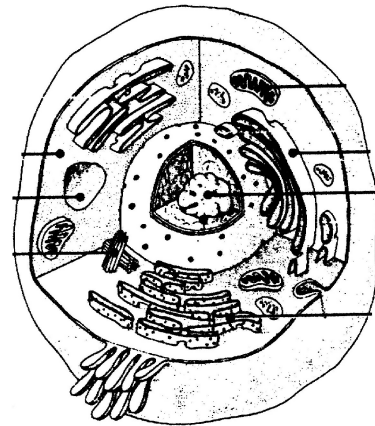
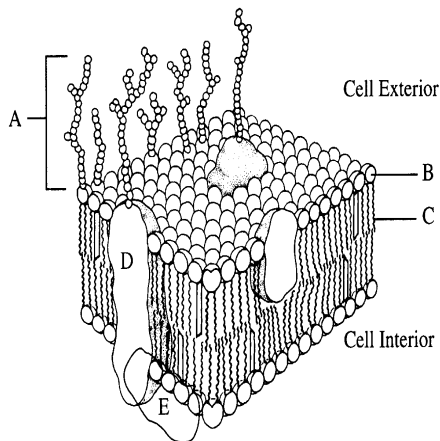
**THE UNIVERSITY OF TEXAS AT ARLINGTON**

**DEPARTMENT OF BIOLOGY**

**HUMAN PHYSIOLOGY**

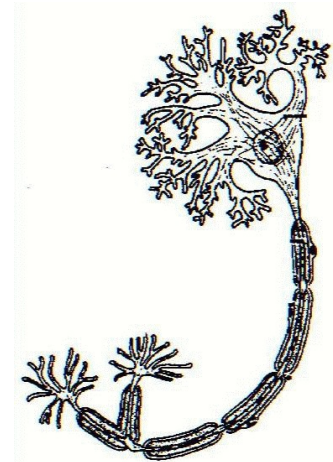
**(Biol 3345-001)**

**Dr. David G. Bernard**



☞ **Course Schedule**

☞ **General Information**



**Spring 2010**

## TABLE OF CONTENTS

INTRODUCTION .....	- Page 1 of 8 -
GENERAL INFORMATION .....	- Page 1 of 8 -
Course Instructor .....	- Page 1 of 8 -
Chairman .....	- Page 1 of 8 -
PREREQUISITES .....	- Page 1 of 8 -
TEXTBOOKS .....	- Page 1 of 8 -
Required Text .....	- Page 1 of 8 -
Supplemental Readings .....	- Page 1 of 8 -
CLASS HOURS .....	- Page 1 of 8 -
IMPORTANT DATES .....	- Page 1 of 8 -
STATEMENT OF POLICIES .....	- Page 2 of 8 -
Electronic Communication Policy .....	- Page 2 of 8 -
Attendance .....	- Page 2 of 8 -
Lecture Time .....	- Page 2 of 8 -
Withdrawal .....	- Page 2 of 8 -
Study Regimen .....	- Page 2 of 8 -
Study Resources .....	- Page 2 of 8 -
Americans with Disabilities Act .....	- Page 3 of 8 -
Drop Policy .....	- Page 3 of 8 -
Drop for Non-payment of Tuition .....	- Page 3 of 8 -
Examinations/Grading Policy .....	- Page 3 of 8 -
Missed Exams .....	- Page 3 of 8 -
Examination Conduct .....	- Page 4 of 8 -
Academic Integrity .....	- Page 4 of 8 -
Grade Grievance Policy .....	- Page 4 of 8 -
Final Review Week .....	- Page 4 of 8 -
Bomb Threats .....	- Page 5 of 8 -
AFTER HOURS SAFETY ESCORT .....	- Page 5 of 8 -
SCHEDULE OF CLASSES .....	- Page 6 of 8 -
STUDENT LEARNING OUTCOMES .....	- Page 7 of 8 -

Spring 2010

**HUMAN PHYSIOLOGY**  
(Biol 3345-001)

Dr. D. G. Bernard

**INTRODUCTION**

This course schedule was compiled to provide a guide to **self-study** for the student so that he/she comes to lectures prepared to obtain **maximum** benefit therefrom. The lectures are designed to give a framework for understanding Human Physiology. They can, at best, provide an overview of physiology and a clarification of the more difficult concepts under study. In the final analysis, the amount of knowledge gained from the lectures will be proportional to the commitment the student has made toward utilizing the limited amount of lecture time. Please come to lectures prepared!

**GENERAL INFORMATION**

STAFF

**Course Instructor**

Office Hours: Tue & Thu 9 - 10:30 a.m.

Phone: 817-272-5704

**David G. Bernard, Ph.D.**

Rm 438/436

Email: dbernard@uta.edu

Box 19498

Chairman, Department of Biology

Phone: 817-272-2871

Jonathan Campbell, Ph.D.

Rm 337

**PREREQUISITES**

Students must have successfully completed the introductory biology courses (1441 & 1442). In addition, students are encouraged to successfully complete at least one sophomore level biology course (e.g. Ecology, Biostatistics, Genetics...). An understanding of General Chemistry and Organic Chemistry and Physics will definitely be beneficial to understanding some of the concepts in Human Physiology.

**TEXTBOOKS**

Required Text: Human Physiology, An Integrated Approach, 4<sup>th</sup> edition, D.U. Silverthorn, Pearson Benjamin Cummings, 2006.

Supplemental Readings: Physiology, R.M. Bern and M.N. Levy, 4<sup>th</sup> Ed., The C.V. Mosby Inc., 1998 (or similar level text).

**CLASS HOURS**

Tuesdays & Thursdays - 11:00 - 12:20 p.m. - Room 119, Life Sciences Building

**IMPORTANT DATES**

First day of class                      01/19

Last day of classes                      05/07

Last day to drop class                      04/02

**Final Exam**                                      **05/11 - 11:00 - 1:30 p.m.**

**STATEMENT OF POLICIES**Electronic Communication Policy

The University of Texas at Arlington has adopted the University “MavMail” address as the sole official means of communication with students. MavMail is used to remind students of important deadlines, advertise events and activities, and permit the University to conduct official transactions exclusively by electronic means. For example, important information concerning registration, financial aid, payment of bills, and graduation are now sent to students through the MavMail system. All students are assigned a MavMail account. ***Students are responsible for checking their MavMail regularly.*** Information about activating and using MavMail is available at <http://www.uta.edu/oit/email/>. There is no additional charge to students for using this account, and it remains active even after they graduate from UT Arlington.

Attendance

**Students are expected to attend all lectures.** While no formal record of lecture attendance will be kept, attending all lectures will **maximize** your understanding of the various principles of physiology to be covered.

Lecture Time

Each lecture will start at the scheduled time. Students are required to arrive for lectures **ON TIME**. Late arrivals distract other students from the lecture and are disturbing to the lecturer.

Withdrawal

The instructor follows the university’s policy as far as dropping the course is concerned. You **will receive a failing grade** if you stop attending classes and do not properly withdraw through the registrar.

Study Regimen

Reading on a lecture topic prior to class provides for familiarization and background for lecture presentations. Performance objectives for each organ system are provided in the syllabus. You are **strongly encouraged** to work through these objectives.

It is imperative that you begin a **daily study regimen in physiology** from the first lecture. By all means, **avoid permitting several days of lectures to accrue** before study and review are started.

Study Resources

**Library Information:** Jan Figa is the Biology Librarian. He can be reached at 272-2698, and by email at [jfiga@uta.edu](mailto:jfiga@uta.edu). You will find some useful research information for biology at <http://library.uta.edu/sel>.

Student Support Services

The University of Texas at Arlington has established a variety of programs to help students meet the challenges of college life. Support to students includes advising, counseling, mentoring, tutoring, supplemental instruction, and writing assistance. For a complete list of academic support services, visit the Academic Assistance resource page of the Office of Student Success Programs, [www.uta.edu/uac/studentsuccess/academic-assistance](http://www.uta.edu/uac/studentsuccess/academic-assistance). To help students address personal, academic and career concerns, individual counseling is also available. For more information, students are encouraged to contact Counseling Services [www.counseling.uta.edu](http://www.counseling.uta.edu) at (817) 272-3671 or visit a counselor in 216 Davis Hall.

Americans with Disabilities Act

The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation: reference Public Law 93112--The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act - (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

As a faculty member, I am required by law to provide “**reasonable accommodation**” to students with disabilities, so as not to discriminate on the basis of that disability. Student responsibility primarily rests with **informing faculty at the beginning of the semester and in providing authorized documentation through designated administrative channels.**

Drop Policy

Students may drop or swap (adding and dropping a class concurrently) classes through self-service in MyMav from the beginning of the registration period through the late registration period. After the late registration period, students must see their academic advisor to drop a class or withdraw. Undeclared students must see an advisor in the University Advising Center. Drops can continue through a point two-thirds of the way through the term or session. It is the student’s responsibility to officially withdraw if they do not plan to attend after registering. Students will not be automatically dropped for non-attendance. Repayment of certain types of financial aid administered through the University may be required as the result of dropping classes or withdrawing. Contact the Financial Aid Office for more information.

Drop for Non-payment of Tuition

Payment must be received by the term due date of January 13, 2010 or your registration will be cancelled. If your registration is cancelled for non-payment, you may re-register for classes but only if seats are available.

Examinations/Grading Policy

Your final grade for the course will come from three (3) Intrasessional and one (1) Final Examination. Each exam is worth twenty-five percent (25%) of your final grade. Each Intrasessional exam will consist of a multiple choice section, which will account for no less than fifty percent of the grade, and a short essay section. The Final Examination is comprehensive and will follow the same format as the Intrasessional examinations. Quizzes are sometimes given and are used to enhance your grade. The final grade for the course will be calculated as follows:

1st Exam 25%	2nd Exam 25%	3rd Exam 25%	Final 25%	
A = ≥ 89.5%	B = 79.5 - 89.4%	C = 69.5 - 79.4%	D = 59.5 - 69.4%	F = < 59.5%

Missed Exams

The Department **strongly discourages** make-up tests, and will offer such a test only after receiving a validated excuse from the Office of your Dean, for medical problems or emergency situations. Tests will be administered within a two week period following the scheduled examination. There will be no exceptions!

Examination Conduct

1. No student will be permitted into the Examination Room with books, notes or other paraphernalia; (exception: handbags and calculators).
2. All students must be seated in their seats (sometimes assigned) at least **five** minutes prior to the scheduled starting time.
3. The doors will be closed fifteen minutes after the scheduled starting time. Students arriving after that time may not be admitted into the Examination Room. **Extra time will not be given to students arriving late for the examination.**
4. **Restroom breaks are NOT allowed.**
5. During the course of the examination, students will remain seated. Questions and needs of individual students will be addressed by proctors coming to the students upon the student raising his/her hand.
6. The instructor will supply scrap, scratch or extra paper for you use which will be collected with the exam booklet at the end of the examination.
7. During the last five minutes of the exam, students are to remain seated until the end of the exam. The instructor will not entertain questions related to the exam during this time.
8. Upon completion of the exam, each student is to remain seated, raise his/her hand and the exam materials will be collected by the proctors. At no time is the student to leave his/her seat and take the exam materials to the proctor or other areas of the room.
9. After collection of the exam material, the student is to promptly and quietly leave the Examination Room, as the examination may still be in progress.
10. I do not answer exam questions during the last 5 minutes of an exam.
11. Smoking, eating or drinking is not permitted in the Examination Room.

**Please do not remain outside the classroom door after leaving the Examination Room.**

Academic Integrity

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University.

“Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.” (Regents’ Rules and Regulations, Part One, Chapter VI, Section 3, Subsection 3.2. Subdivision 3.22).

Grade Grievance Policy

The instructor follows the university’s policy as far as contesting one’s grade is concerned.

Final Review Week

A period of five class days prior to the first day of final examinations in the long sessions shall be designated as Final Review Week. The purpose of this week is to allow students sufficient time to prepare for final examinations. During this week, there shall be no scheduled activities such as required field trips or performances; and no instructor shall assign any themes, research problems or exercises of similar scope that have a completion date during or following this week unless specified in the class syllabi. During Final Review Week, an instructor shall not give any examinations constituting 10% or more of the final grade, except makeup tests and laboratory examinations. In addition, no instructor shall give any portion of the final examination during Final Review Week.. Classes are held as scheduled during this week and lectures and presentations may be given.

Bomb Threats

If anyone is tempted to call in a bomb threat, be aware that UTA will attempt to trace the phone call and prosecute all responsible parties. Every effort will be made to avoid cancellations or presentations/tests caused by bomb threats. Unannounced alternate sites will be available for these classes. Your instructor will make you aware of alternate class sites in event that your classroom is not available.

**AFTER HOURS SAFETY ESCORT**

The Sam Mav Escort service provides a service to assist students, faculty, staff and campus visitors to reach their destinations after regular business hours. The hours of service are 7:00 p.m. to 1:00 a.m., Sunday through Saturday. 817-272-3381

**SCHEDULE OF CLASSES**

WEEK OF	LECTURE TOPIC
01/18	<b>MLK Jr Holiday</b> , Introduction and Cell Physiology; Molecular Interactions; Cells and Tissues
01/25	Cells and Tissues; Membrane Dynamics - Transport Across Cell Membranes
02/01	Communication, Integration and Homeostasis - Homeostasis and Control Systems
02/08	The Endocrine System
02/16	The Endocrine System, <b>Review</b>
<b>Thursday 02/18</b> <span style="float: right;"><b>Exam I</b></span>	
02/22	Introduction to the Nervous System; The Peripheral Nervous System
03/01	The Autonomic and Somatic Motor Divisions
03/08	The Central Nervous System; Muscles Physiology
03/15 - 03/19 <b>Spring Vacation, enjoy!</b>	
03/22	Muscles Physiology; Blood; <b>Review</b>
<b>Thursday 03/25</b> <span style="float: right;"><b>Exam II</b></span>	
03/29	Blood, Cardiovascular Physiology; Blood Flow and the Control of Blood Pressure
04/05	Respiratory Physiology
04/12	The Respiratory System
04/19	Introduction to the Digestion System; <b>Review</b>
<b>Thursday 04/22</b> <span style="float: right;"><b>Exam III</b></span>	
04/26	Digestive System; The Kidneys
05/03	The Kidneys; Reproduction; <b>Review</b>
<b>Tuesday 05/11</b>	<b>FINAL EXAM</b> <span style="float: right;"><b>11:00am - 1:30 p.m.</b></span>

# Enjoy Your Summer



**STUDENT LEARNING OUTCOMES**

The objectives of this course is to provide the student with an overview of Human Physiology, with emphasis on the human body. The course is not intended to give a detailed analysis of any system, but to allow the student to appreciate the organization and complexity of the overall system. Some integration of function across different levels will be dealt with. The goal is for the student to learn the language of physiology and the basic concepts that give the language meaning.

**OVERVIEW:**

**Instructional Objectives:** To explain and clarify concepts in Human Physiology and assist students in solving physiological problems.

**Performance Objectives:** Students will be expected to list, describe and explain basic physiological concepts. They will also be expected to define and explain physiological functions and use this information to solve physiological problems. They will be expected to recognize and recall information so the knowledge can be reproduced or communicated without a verbatim repetition. They should also be able to solve physiological problem by applying what they have learned.

**ORGANIZATION OF THE BODY:**

**Instructional Objectives:** To explain the basic organization of the body, define homeostasis and the basis of control systems. To introduce the student to the chemistry of life in order to better comprehend physiological principles.

**Performance Objectives:** Students should be able to define anatomy and physiology and explain the importance of homeostasis and feedback control systems. They should also be able to describe the language of anatomy using the correct anatomical terminology. In addition students should be able to define the concepts of matter and energy, the composition of matter, and explain the biochemistry, composition and reactions of living matter. Students should also be able to define a cell and list the major structures and regions. Students should also be able to list and describe the major tissues and explain their function.

**COVERING, SUPPORT, AND MOVEMENT OF THE BODY:**

**Instructional Objectives:** To describe and explain the skin, the skeletal, and the muscular systems and how they interact in promoting body support, protection, and motility. To discuss and explain muscle physiology and anatomy.

**Performance Objectives:** Students will be expected to name the specific tissue types composing the integumentary system and how they interact to maintain homeostasis. Students will be expected to explain and describe the functions of bones, skeletal tissues, and muscular tissues. They should be able to explain how the muscular system functions to produce locomotion and motility.

**REGULATION AND INTEGRATION OF THE BODY:**

**Instructional Objectives:** To explain the regulatory systems of the body. The concept of sensors and sensory input will be discussed. The concept of neural integration will be explored at various levels of motor and sensory integration.

**Performance Objectives:** Students will be expected to list, describe and explain the basic functions of the nervous system, describe membrane potential and its basis, and define the concept of neurotransmitters. Students should be able to list the important differences between the two control systems. Students should be able to define and describe the functional and structural components of the endocrine system and its function in maintaining homeostasis.