



## **BSC 497. Pathophysiology**

### **COURSE SYLLABUS: Spring 2015**

Instructor: Kodeeswaran Parameshwaran, PhD  
Jan 20 – May 15; Web based class (CRN-22549)  
Office: 201 Science (STC)  
Phone: 903-468-8648  
Email: [kparameshwaran@tamuc.edu](mailto:kparameshwaran@tamuc.edu) (preferred)  
Office Hours: T and R 3.00-5.00 PM (or by appointment)  
email & eCollege anytime (no immediate responses guaranteed)

#### **Important University Statements**

**Academic integrity:** As members of Texas A&M University-Commerce academic community, we all are responsible to uphold the principles of academic integrity expressed by this community. We are expected to watch these principles to be kept and appreciated by others.

- The first instance of cheating will result in an automatic Zero on the exam. A second instance will result in Zero course grade (automatic F).
- Plagiarism is a serious academic violation. You must cite all sources of information with properly accredited citations. Copying material, whether in parts or whole, will result in a grade of Zero for your term paper and can lead to further University disciplinary consequences.

**Accommodations:** The American with Disability Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other aspects, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have disability requiring accommodation, please contact:

Office of Student Disability Resources or Services  
Texas A&M University-Commerce  
Gee Library, Room 132  
Tel) 903-886-5150, 903-886-5835  
Fax) 903-468-8148  
Email) [StudentDisabilityService@tamuc.edu](mailto:StudentDisabilityService@tamuc.edu)

**Access to student work:** Copies of your work in this course including copies of any submitted papers and your portfolios may be kept on file storage for institutional research, assessment, and accreditation purposes. All work used for these purposes will remain anonymous.

### **Course Description**

BSC 497, Pathophysiology, is a course for Biological and Environmental Sciences undergraduate students designed to provide in-depth understanding of cellular and organ system physiology and how such normal physiological processes are altered in human disease conditions. The comprehensive understanding of cellular, organ system and integrative pathophysiology will help students to understand the genetic, inflammatory, metabolic and cell signaling based mechanisms that determine disease pathomechanisms. Finally, certain pathological changes are markedly different in children and old people. Therefore, last two chapters will focus on pediatric and geriatric pathophysiology.

REQUIRED Textbook: none

### **Student learning outcomes**

Upon completion of this course, you should be able to;

- 1) Gain an understanding of cellular changes that determine alteration in cell function, morphology or survival/death.
- 2) Gain a broad knowledge on major pathological changes that affect each of the organ systems.
- 3) Explain the ways the immune system protect human body and how hypersensitivity or lack of immune protection may cause diseases.
- 4) Recognize the major genetic changes that can cause diseases.
- 5) Comprehend how physiology and pathophysiology may vary in children and old individuals.

### **On-line Class Policy**

This is a “web-based” course - you don’t actually attend lecture classes. Instead, all class activities will be held in eCollege enters through MyLeo page. Check the website frequently for announcements, instructions, and discussions. Try navigating the site early so you know that you can access everything. If you have difficulties with any material, talk to me immediately. For successful course completion, your participation is essential. Students should check lecture material, assignments, and tests on regular basis. Yes, this course is mainly self-paced. However, it is strongly recommended that you schedule your specific work time that works best for you. Don’t forget that the websites is active 24/7 during the semester (Jan 21 – May 15, 2015)

- The material for this class will be organized around content blocks. Students are expected to read the assigned textbook material and lecture notes and comply with given due dates for the assignments
- Exams access will be available only during the pre-announced period of time. After this given period, you will not be able to have an access to that exam.

### *Technology Requirements*

This course is web-based, and will therefore be administered via eCollege (see “ACCESS AND NAVIGATION”). All course announcements, which mainly include news about assignments, are posted through eCollege (usually via email). In addition to reading the announcements (my emails), you will be uploading your assignments to the Dropbox. As grades are updated, I update the Gradebook. Thus, the three major components used in eCollege are Announcements, Dropbox, and Gradebook.

The following information has been provided to assist you in preparing to use technology successfully in this course.

- Internet access/connection – high speed recommended (not dial-up)
- Word Processor (Microsoft Word, OpenOffice Writer, et cetera) and Slide Program (Microsoft PowerPoint, OpenOffice Impress, et cetera)

Our campus is optimized to work in a Microsoft Windows environment. This means our courses work best if you are using a Windows operating system (Vista or newer) and a recent version of Microsoft Internet Explorer (7.0, 8.0, or newer). Your courses will also work with Macintosh OS X and most Linux distributions. To launch a browser test within any operating system, login in to eCollege, click on the „myCourses“ tab, and then select the “Browser Test” link under Support Services.

### *Access and Navigation*

#### ***eCollege Access and Log in Information***

This course will be facilitated using eCollege, the Learning Management System used by Texas A&M University-Commerce. To get started with the course, go to <https://leo.tamuc.edu/login.aspx>.

You will need your CWID and password to log in to the course. If you do not know your CWID or have forgotten your password, contact Technology Services at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

#### ***Getting Started***

Be sure to explore the class site at eCollege. Use the first couple of days to become familiar with the class site. Remember that this is a GRADUATE level course, and therefore you will be expected to show appropriate levels of effort. You will be expected to take part in discussions in a mature and in-depth manner, to write in a clear and professional voice and you should not need excessive amount of instructor’s hand-holding.

### **Grading Policy**

Quiz	25%
Home assignments	20%
Exams (3)	30%
Final	25%

### ***Grading Scale***

The final course grade will be assigned based on the following break-down;

90 – 100% = A

80 – 89% = B

70 – 79% = C

60 – 69% = D

59% and below = F

### ***Teaching Methodology***

**Web-based Course** This course is partially self-paced. Therefore, it is VERY important to keep up with the material (if you fall behind, there isn't much time to catch up!!!). Students are strongly encouraged to print lecture slides and use them as study guide. Periodically check (daily!!) course homepage as well as your email for course announcements.

**Makeup** Since there are no actual class meetings or sit-down exam periods, there isn't any necessity for "make-up". All work will have a due date posted. Assignments may be accepted late, but will be penalized heavily on an increasing scale (the later it is, the more point it loses). Please contact me immediately if you are "absent/inactive" long enough to miss any due dates. However, I STRONGLY RECOMMEND planning ahead to avoid such problems. Extreme circumstances will always be taken into consideration; talk to me before you assume anything.

### **TOPICS COVERED\***

Week 1: Jan. 21-23

Introduction.

Chapter 1: Altered cellular and tissue biology.

Week 2: Jan.26-30

Chapter 2: - Genes and genetic diseases.

#### **Quiz I**

Week 3: Feb. 2-6

Chapter 3: Mechanisms of self defense.

Week 4: Feb. 9-13

Chapter 4: Cancer and cellular proliferation.

#### **Exam I**

Week 5: Feb. 16-20

Chapter 5: Neuropathology, neuropathology of mood disorders, pain and sleep.

Week 6: Feb. 23-27

Chapter 6: Alterations in hormonal regulation.

#### **Quiz II**

Week 7: Mar. 2-6

Chapter 7: Alterations in reproductive physiology and system; sexually transmitted diseases.

Week 8: Mar. 9-13

Chapter 8: Alterations in cardiovascular function.

#### **Exam II**

Week 9: Mar. 16-20

Chapter 9: Altered pulmonary function.

Week 10: Mar. 23-27

Chapter 10: Pathological changes in renal and

urologic systems.

Week 11: Mar.30-Apr.3

**Quiz III**

Chapter 11: Alterations in digestive function.

Week 12: Apr. 6-10

**Exam III**

Chapter 12: Pathology of musculoskeletal system.

Week 13: Apr. 13-17

Chapter 13: Disorders of the integument.

Week 14: Apr. 20-24

**Quiz IV**

Chapter 14: Multiple organ dysfunction.

Week15: Apr. 27-30

Chapter 15: Pediatric pathophysiology.

Week16: May 4-8

Chapter 16: Geriatric pathophysiology

Week 17 May 11-15

**Quiz V**

Comprehensive Final Exam

**\*ALL DATES, TESTS AND ASSIGNMENTS ARE TENTATIVE AND SUBJECT TO CHANGE**