Pathophysiology

COURSE DESCRIPTION
The overall objective of this course is to understand the disease processes of the human body. We will discuss symptoms, treatments and prognosis. Emphasis will be given to the physiological factors that underlie disease states. **This is a rigorous lecture-based course containing a large amount of information that is covered rapidly.** It will require a great deal of time and effort on the part of the student. Input from the students into the class is welcomed and encouraged. We all benefit when the students contribute their personal and professional perspectives.

STUDENT LEARNING OUTCOMES
Following completion of the course, the student will be able to:
- Understand the mechanisms of cell injury
- Describe the role of the inflammatory response in disease states
- Discuss the role of the immune system in maintaining homeostasis and its pathology
- Understand the processes and risk factors involved in carcinogenesis
- Assess and understand the physiological responses to specific disease states
- Analyze the pathological states of the different body systems and their interactions

REQUIRED READINGS
2) The lectures listed in the tentative schedule (titles and chapters numbers correspond to the chapters of this book). Some of the material illustrated in the lectures and in the handouts is derived from the chapters of the textbook. The electronic versions of the lecture handouts (PDF format) as well as the syllabus and study guides will be made available on Blackboard 9.1. Handouts will be posted on Blackboard one week before class. Blackboard can be accessed at: https://bb9.tamucc.edu/. If you need to contact the instructor about the course, please use the instructor’s regular email address (riccardo.mozzachiodi@tamucc.edu).
3) Additional material that will be provided by the instructor.

MAJOR COURSE REQUIREMENTS
Assessment = Exams + In-Class Learning Exercises

Exams: There will be 5 exams (4 during the semester + final Exam). Each exam, including the final, is worth 100 points. Each Exam will focus on the material covered during lectures and is listed in bold in the tentative schedule (see below). For example, exam 2 will cover material from chapters 4, 6 and 7, but it may also contain questions about the previous section (chapters 1-3). In addition to the handouts, students are responsible for all material, such as videos, guest lectures, websites etc. covered during class. Exams may contain questions in the following formats: multiple choice, matching, true/false, making/labeling drawings, short answer questions, and essay questions. **All the exams are comprehensive. The lowest grade of the 5 exams will be automatically dropped.** If the grade obtained at the end of the regular semester (i.e., after 4 exams and 8 in-class learning exercises) cannot be improved with the final exam, the student...
does not have to take the final exam. Consequently, students will take the final exam to replace the lowest exam grade obtained during the semester and improve the cumulative grade. Exams are completed on a scantron answer sheet, which will be provided. Both exam and scantron answer sheet must be completed and submitted at the end of the test. Grades are calculated based on the answers provided on the scantron sheet. Consequently, if an answer was bubbled wrong on the scantron, but was marked correctly on the exam text, it will remain counted wrong. Additionally, answers that are not bubbled on the scantron will be counted wrong, even when marked correctly on the exam text. Therefore, students are strongly encouraged to carefully check their answers on the scantron before turning it in. An exam lasts as a regular class (approximately 90 min). There will be no lecture on exam days. During exams, students will be required to remove their caps, hats, etc.

- Different test forms may be prepared for an individual exam. Follow instructions.
- If you leave an examination room for any reason you must hand in your test and you will not be allowed to resume the examination. Attend to personal matters (e.g., rest room visits) before the beginning of the exam.
- Be on time! Anyone arriving after someone has already completed and turned in an exam and left the room will not be allowed to take that examination.

In-Class Learning Exercises: At random times during the semester, students will engage in in-class learning exercise. These exercises will require the students to answer questions about topics covered during class. **These in-class learning exercises will not be announced in advance.** During the in-class learning exercises, students will be allowed to use textbook and handouts with notes, but not electronic devices including portable computers and phones. There will be 8 in-class learning exercises, each worth 10 points. In class-learning exercises will last 10 min and will be presented at any time during class (i.e., at the beginning, at the end or during class). In-class learning exercises will not be scheduled on a day when an Exam is already scheduled. **All the 8 in-class learning exercises will count for the final grade.** During in-class-learning exercises, students will be required to remove their caps, hats, etc. Once the student has turned in an in-class learning exercise, he/she is not allowed to turn on the cell phone or the computer until all the students have turned in their assignments and the instructor begins/resumes the lecture.

Partial grades for exams and in-class learning exercises will be posted on Blackboard. It is the students’ responsibility to regularly check their scores on Blackboard.

The final grade is based on the sum of 4 exams (400 points) and 8 in-class learning exercises (80 points), for a total of 480 points.

**Grading Scale:**

480 - 424 = A  
423 - 376 = B  
375 - 328 = C  
327 - 280 = D  
279 or below = F

**SUPPLEMENTAL INSTRUCTION**

A Supplemental Instruction (SI) component has been established for this course. Your SI leader is Christine McIntyre and her email is: Christine.Mcintyre@tamucc.edu. You will receive a schedule of SI sessions separately from this syllabus. Please take advantage of your SI leader’s expertise. To benefit from SI, students are recommended to attend SI sessions on a regular basis and do not wait until the session before an examination to start attending SI sessions. During SI sessions, your SI leader will review and discuss questions you had difficulty answering correctly.
COURSE POLICIES

Attendance/tardiness
Students are expected to attend every class. If absent, it is the student’s responsibility to obtain missed information from a classmate. Missed information includes not only lecture notes, but also any possible information regarding changes to the agenda. The student is expected to arrive prepared to take notes and should bring textbook and handouts.

Communications with the instructor
All students are required to access and use their university Islander email accounts to communicate with the instructor. To find out more about your TAMU-CC email account go to: http://www.tamucc.edu/ise.html. The instructor will use these addresses to create a class email list to disseminate important course information. The instructor will not reply to personal email accounts (e.g., Gmail, yahoo, etc.) other than the student’s islander email.

Academic assistance
If a student experiences academic difficulty, the instructor is available for consultation and extra help. However, it is the responsibility of the student to seek help, preferably while the investment made by the student can still be salvaged. Please contact the instructor by phone or via email to arrange an appointment.

Late work and make-up exams
- In-class learning exercises. Regardless of the circumstances, students will not be allowed to make up the learning exercise(s) that they have missed. This rule applies to every student and no exceptions will be made. In case a student cannot attend class because he/she will be officially representing TAMU-CC (e.g., meetings or sports events), see rule € below.
- Exams. This course does not include make-up exams. If you are not able to attend one of the exams, contact the instructor ASAP (see below). Points missed because of an unexcused absence (including tardiness and leaving early) cannot be recovered. An excused absence allows the instructor to make alternative arrangements for completing assignments. The documentation required for an absence to be excused must be:
  a) From an appropriate source (e.g., doctor, dentist, funeral director) who states the nature of the event that caused (or will cause) your absence.
  b) In writing, on official stationery, and signed (I do not return excuses to you). Telephone calls, FAXes, and e-mails are not acceptable.
  c) Presented prior to the absence for a scheduled event (e.g., university-sponsored activity recognized religious holiday, military service).
  d) Presented no more than one week after the date of an unexpected absence.
  e) In case a student cannot attend class because he/she will be officially representing TAMU-CC (e.g., meetings or sports events), the documentation required for an absence to be excused must be from the Office of Student Affairs. Refer to your student handbook on obtaining an excused absence from his office.

Unacceptable excuses
Only unavoidable absences are excused, so you should schedule routine personal events (e.g., vacations, weddings, reunions, non-emergency medical or dental visits, parent-teacher conferences, household or auto repairs) to avoid conflicts with your classes. Oversleeping is never an acceptable excuse. Employment conflicts are not acceptable excuses for absences, tardiness, or leaving class early. Once enrolled in a class, it is the student’s responsibility to arrange his or her work schedule so that no regularly scheduled class, laboratory, or examination time is missed. Texas waives jury duty for students, so jury duty is not an acceptable excuse. Students must remember that it is their responsibility to know the course schedule on pages 7 and 8 of
this syllabus. If you miss an exam because you forgot, or because you were not aware that it was scheduled for that day, you WILL NOT be allowed to make it up!

**Cell phone/electronic device usage**
- During lectures, cell phones and any other portable devices must be turned off and removed from the table. Cell/smart phones must be turned off at the beginning of class and remain so until the class is dismissed. Computers and notebooks can be used to take notes.
- During exams or learning exercises, any portable device, including phones, computers, notebooks and tablets must be turned off and removed from the table for the entire duration of the exam/exercise.

**Academic integrity**
University students are expected to conduct themselves in accordance with the highest standards of academic honesty. Academic misconduct for which a student is subject to penalty includes all forms of cheating, such as illicit possession of examinations or examination materials, falsification, forgery, complicity or plagiarism (plagiarism is the presentation of the work of another as one’s own work). For this class, acts of academic misconduct, including plagiarism, cheating and complicity conducted during a learning exercise or an exam will result in a grade of zero (0) points for that given assignment. Furthermore, an Academic Misconduct Incident will be filed and reported to the University Academic Standard Grievance Committee.

**Dropping a class**
I hope that you never find it necessary to drop this or any other class. However, events can sometimes occur that make dropping a course necessary or wise. Please, consult with the instructor before you decide to drop to be sure it is the best thing to do. Should dropping the course be the best course of action, you must initiate the process to drop the course by going to the Student Services Center and filling out a course drop form. Just stopping attendance and participation WILL NOT automatically result in your being dropped from the class. November 7, 2014 is the last day to drop a class with an automatic grade of “W” in the fall semester.

**Classroom/professional behavior**
Texas A&M University-Corpus Christi, as an academic community, requires that each individual respect the needs of others to study and learn in a peaceful atmosphere. Under Article III of the Student Code of Conduct, classroom behavior that interferes with either (a) the instructor’s ability to conduct the class or (b) the ability of other students to profit from the instructional program may be considered a breach of the peace and is subject to disciplinary sanction outlined in article VII of the Student Code of Conduct. Students engaging in unacceptable behavior may be instructed to leave the classroom.

**Grade appeal process**
As stated in University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures, a student who believes that he/she has not been held to appropriate academic standards as outlined in the class syllabus, equitable evaluation procedures, or appropriate grading, may appeal the final grade given in the course. The burden of proof is upon the student to demonstrate the appropriateness of the appeal. A student with a complaint about a grade is encouraged to first discuss the matter with the instructor. For complete details, including the responsibilities of the parties involved in the process and the number of days allowed for completing the steps in the process, see University Procedure 13.02.99.C2.01, Student Grade Appeal Procedures. These documents are accessible through the University Rules website at [http://www.tamucc.edu/provost/university_rules/index.html](http://www.tamucc.edu/provost/university_rules/index.html), and the College of Science and Engineering Grade Appeals webpage ([http://sci.tamucc.edu/students/GradeAppeal.html](http://sci.tamucc.edu/students/GradeAppeal.html)). For assistance and/or guidance in the grade appeal process, students may contact the Chair or Director of the appropriate Department or School, the Office of the College of Science and Engineering Dean, or the Office of the Provost.
About the final exam
Students are not required to take more than two final examinations in any one day. The students who have three or more final examinations scheduled on the same day may request to take the final exam for this course on another day during the final examination period. The process is described below:

1) The student should first try to resolve the matter with the appropriate instructor(s). The schedule with the final exams for the Fall 2014 is available at: [http://registrar.tamucc.edu//final_exams/index.html](http://registrar.tamucc.edu//final_exams/index.html). Therefore, students should already know whether they have to reschedule their final exam. If this is the case, they are strongly encouraged to contact Dr. Mozzachiodi in a timely manner. **Requests about rescheduling the final exam will not be considered if received after October 31, 2014.**

2) If the matter remains unresolved, the student should submit a request for an alternative final exam time in writing to the Office of Student Affairs. This request must be submitted by the drop date, which is November 7, 2014.

3) The Office of Student Affairs will select which of the exams should be taken at an alternative time and formally contact the faculty member at least 15 working days before the final examination period. Preference for selection of which course would have an alternative final exam time must be based on the course with the smaller class size and, then, courses with final exam times in between other exams.

4) The faculty member will then arrange an alternative time for the student to take the final exam for that course that does not conflict with the student’s final exam schedule or require the student to take more than two final exams in one day. If students have difficulties in rescheduling the examination, they should consult with the Office of Student Affairs. Final exams given outside the regularly scheduled time may vary in content and format at the discretion of the faculty member.

Opportunities listserv
Students are strongly encouraged to subscribe to the opportunities listserv, which announces scholarships, fellowships, internships, seminars, jobs, etc. Some SPAM filters will not accept mass mailings, but you can adjust your settings to accept messages from this listserv. To subscribe:

1) Send an email message to: opportunities-list-request@sci.tamucc.edu
2) Make sure that your e-mail address appears in the “From:” heading, and that the word “subscribe” is typed in the subject line.
3) You will receive a subscription acknowledgement from the listserv letting you know that you have subscribed successfully.
4) To post a message to all members of the listserv, send the message to: opportunities-list@sci.tamucc.edu
You must be subscribed to the listserv to send messages.

DISABILITIES ACCOMODATIONS
The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. The Biology and Biomedical Sciences Programs comply with the ADA in making reasonable accommodation for qualified students with disabilities. Any student who suspects that a disabling condition (physical impairment, learning disability, psychiatric disability, etc.) may necessitate special arrangements to meet course requirements, should first obtain appropriate verification from A&M-Corpus Christi Services for Students with Disabilities Office (located in in Corpus Christi Hall 116, phone #: 825-5816). If the student is a returning veteran and is experiencing cognitive and/or physical access issues in the classroom or on campus, please contact the Disability Services office for assistance. It is important
to contact the Disability Services office in a timely fashion as it may take several days to review requests and prepare accommodations and accommodation letters. Upon receipt of accommodation letters, a student should take them to appropriate instructors as soon as possible. Please note that instructors are not required to make accommodations prior to receipt of an official accommodation letter. Should you have mobility problems, please notify the lecture and laboratory instructors so that they may seek assistance for you in the case of fire drills or emergencies. Also, any student having a medical condition that may fulminate (i.e., “flare-up” without warning such as diabetes, epilepsy, etc.) should notify your instructors.

ACADEMIC ADVISING
The College of Science and Technology requires that students meet with an Academic Advisor as soon as they are ready to declare a major. The Academic Advisor will set up a degree plan, which must be signed by the student, a faculty mentor, and the department chair. The College’s Academic Advising Center is located in the Center for Instruction, room CI-350.

RELIGIOUS HOLIDAYS
Any student who will miss class and/or test days because of recognized religious holidays should notify me as soon as possible so we can make alternative arrangements. Prior notification is required for such absences to be excused.

ACADEMIC CONTINUITY
In the event of an unforeseen adverse event, such as a major hurricane and classes could not be held on the campus of Texas A&M University–Corpus Christi; this course would continue through the use of Blackboard and/or email. In addition, the syllabus and class activities may be modified to allow continuation of the course. Ideally, University facilities (i.e., emails, web sites, and Blackboard) will be operational within two days of the closing of the physical campus. However, students need to make certain that the course instructor has a primary and a secondary means of contacting each student.

INSTRUCTOR NOTES
In choosing to take this course, you are agreeing to abide by the course rules, regulations, and standards. Should you have concerns or questions, you are encouraged to discuss them with the instructor as soon as possible. However, you are bound by these rules, regulations and standards from the first day of class throughout the duration of the course. Failure to comply with course rules or showing disrespect toward the instructor or other classmates will result in removal from the course.

ATHLETIC TRAINING EDUCATION PROGRAM COMPETENCIES
Competencies & Proficiencies per Commission on Accreditation of Athletic Training Education (CAATE) 4th edition:

Pathology Competencies Taught & Evaluated

- **PA-C1**: Describe the essential components of a typical human cell. Include the normal structure and the function of each component and explain the abnormal symptoms associated with injury, illness, and disease.
- **PA-C2**: Explain gross cellular adaptations in response to stress, injury, or disease (e.g., atrophy, hypertrophy, differentiation, hyperplasia, metaplasia, and tumors).
- **PA-C3**: Explain normal and abnormal circulation and the physiology of fluid homeostasis.
- **PA-C4**: Identify the normal acute and chronic physiological and pathological responses (e.g., inflammation, immune response, and healing process) of the human body to trauma, hypoxia,
microbiologic agents, genetic derangements, nutritional deficiencies, chemicals, drugs, and aging affecting the musculoskeletal and other organ systems, and musculoskeletal system adaptations to disuse.

- **PA-C6:** Describe the body’s responses to physical exercise during common diseases, illnesses, and the injury.

### Diagnosis Competencies Taught & Evaluated

- **DI-C16:** Explain medical terminology and abbreviations necessary to communicate with physicians and other health professionals.

### GENERAL DISCLAIMER:

The Instructor reserves the right to modify the schedules and policies in this syllabus if and when necessary. Such changes will be announced during regularly scheduled lecture periods, but no attempt will be made to contact students who were absent when an announcement was made. Nevertheless, all students are responsible for abiding by all announced changes, and it is a student’s responsibility to obtain this information. Changes will be announced in a timely manner, but be aware that some modifications may be implemented without prior warning.

### SCHEDULE

This schedule may change depending on unforeseen events. Numbers in parenthesis refer to specific chapters of the text book.

#### August

- 28 Syllabus description and course introduction. Cell Pathology (Chapter 1)

#### September

- 2 Cell Pathology (Chapter 1), continued
- 4 Inflammation (Chapter 2)
- 9 Inflammation (Chapter 2), continued
- 11 Immunopathology (Chapter 3)
- 16 Immunopathology (Chapter 3), continued
- 18 Neoplasia (Chapter 4)
- 23 **EXAM 1: Cell Pathology; Inflammation; Immunopathology**
- 25 Neoplasia (Chapter 4), continued
- 30 Fluid and Hemodynamic Disorders (Chapter 6)

#### October

- 2 The Cardiovascular System (Chapter 7)
- 7 The Cardiovascular System (Chapter 7), continued
- 9 The Respiratory System (Chapter 8)
14 EXAM 2: Neoplasia; Fluid and Hemodynamic Disorders; The Cardiovascular System
16 The Respiratory System (Chapter 8), continued
21 The Hematopoietic and Lymphoid Systems (Chapter 9)
23 The Hematopoietic and Lymphoid Systems (Chapter 9), continued
28 The Liver and Biliary System (Chapter 11)
30 The Liver and Biliary System (Chapter 11)

November
4 EXAM 3: The Respiratory System; The Hematopoietic and Lymphoid Systems; The Liver and Biliary System
6 The Pancreas (Chapter 12)
11 The Endocrine System (Chapter 17)
13 The Urinary Tract (part 1; Chapter 13)
18 EXAM 4: The Pancreas; The Endocrine System; The Urinary Tract (Part 1)
20 The Urinary Tract (part 2; Chapter 13), continued
25 The Nervous System (Chapter 21)
27 Thanksgiving, no class

December
2 The Nervous System (Chapter 21), continued
4 FINAL EXAM: 4:30 – 7:00 PM. Final exam will be comprehensive and will also include questions on Part 2 of Chapter 13 (The Urinary Tract) and on Chapter 21 (The Nervous System).