

# Human Pathophysiology for the Exercise Sciences

APK5133 | Class #17330, 118445 | 3 Credits | Spring 2025

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## Course Information

### INSTRUCTOR

**Paul A. Borsa, PhD, ATC**

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### OFFICE HOURS

Office hours: by appointment

**Course Description:** In-depth study of current concepts and theories related to the prevention and management of athletic injuries and other medical conditions; including factors affecting inflammation and healing, and the role of therapeutic intervention, exercise, and rehabilitation.

**Prerequisite Knowledge:** A background in human anatomy and physiology will be helpful.

**Required and Recommended Materials:** There will be no required textbook for this course, however lecture notes will be posted to Canvas in .pdf format. In addition, recommended and supplemental readings may be available for students to download or photocopy.

**Course Learning Objectives:** At the conclusion of this course, the student is expected to:

1. Examine the patho-anatomical and patho-physiological mechanisms of acute and chronic inflammation healing and repair of connective tissues and other related conditions.
2. Analyze the biomechanical and neuromuscular processes related to the development of bone, cartilage, ligament, muscle, tendon, and nerve injuries commonly seen in athletes and physically active individuals.
3. Evaluate selected therapeutic agents and intervention methods used in the clinical management of sports related injuries and illnesses.
4. Interpret the clinical implications therapeutic agents have on the healing process.
5. Assess the role of proprioception and neuromuscular control in the management and rehabilitation of athletic injuries.

### Course Requirements:

90% - Module Quizzes – 390 pts

10% - Group Discussions – 30 pts

Module quizzes and group discussions will be used to assess the students' academic standing in this course. **Late assignments will not be accepted for credit unless arrangements have been made with the instructor prior to the due date for that assignment.** Failure to make prior arrangements may result in rejection of work submitted late as rescheduling/accepting assignments is at the discretion of the instructor. Requirements for class attendance and make-up exams, assignments, and other work are consistent with university policies: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>.

#### 10% - Discussion Boards/Assignments

**6 Discussion Boards X 5 points each = 30 points**

**Overview:** Students are required to participate in all group discussion board assignments. The quality of engagement in this activity will be noted and graded accordingly.

### **90% - Course Quizzes**

**14 Module Quizzes = 390 points total this semester**

**Overview:** Students will be assessed throughout the semester by taking weekly module quizzes.

Students are required to complete quizzes and turn them in by due date assigned. Point value per quiz will vary. Please review each quiz's instructions & guidelines

- Students will be assessed over the following course materials: lectures only

### **Course and University Policies:**

**Personal Conduct Policy:** Students are expected to exhibit behaviors that reflect highly upon themselves and our University. Outline for them exactly what that means in the context of your course. UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code (<http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obliged to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult the instructor or TA in this class.

**Make-up Policy:** Quizzes and discussion posts will not be accepted late, and on some days more than one of these tasks may be due. If personal circumstances arise that may interfere with your ability to meet a deadline, **please let me know as soon as possible before the due date.** Please keep in mind only university authorized excuses will be accepted, and documentation must be provided. Requirements for make-up exams, assignments, and other work are consistent with university policies:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

**Accommodating Students with Disabilities:** "Students requesting accommodation for disabilities must first register with the Dean of Students Office (<http://www.dso.ufl.edu/drc/>). The Dean of Students Office will provide documentation to the student who must then provide this documentation to the instructor when requesting accommodation. You must submit this documentation prior to submitting assignments or taking the quizzes or exams. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations."

**Course Evaluations:** Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. This evaluation system is designed to be more informative to instructors so that teaching effectiveness is enhanced and to be more seamlessly linked to UF's CANVAS learning management system. Students can complete their evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://my-ufl.bluera.com/>. Thank you for serving as a partner in this important effort.

**Privacy:** Our class sessions may be audio visually recorded for students in the class to refer and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally agree to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

## Getting Help:

The University of Florida recognizes that pursuit of an online degree requires just as much student support as pursuit of a traditional on-campus degree and, therefore, each online program is responsible for providing the same student support services to both students who are in residence on the main campus and those who are seeking an online degree through distance learning. The following links provide support services for students:

### [Online Computing Help Desk- e-Learning Support Services](#)

The UF Computing Help Desk is available to assist students with technical issues. If you have any issues accessing the online course material, you must contact the UF Computing Help Desk immediately for assistance and obtain a case number. I will not accept late assignments, or change any course dates, due to technology difficulties if you do not have a case number prior to the due date for the assignment.

For issues with technical difficulties in E-learning, please contact the UF Help Desk:

[helpdesk@ufl.edu](mailto:helpdesk@ufl.edu)

(352) 392-4357

<https://elearning.ufl.edu/student-help-faqs/>

Other resources are available at: <https://distance.ufl.edu/getting-help/>

### [Online Library Help Desk](#)

The help desk is available to assist students with access to all of the UF Libraries resources.

### [Disabilities Resource Center](#)

Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. If you have a physical, learning, sensory or psychological disability, please visit our Disabilities Resource Center.

**U Matter, We Care** - Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor are available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

### **Honorlock Quiz and Exam Proctoring Information:**

Honorlock will proctor your quizzes and examinations this semester. Honorlock is an online proctoring service that allows you to take your exam from the comfort of your home. You DO NOT need to create an account, download software, or schedule an appointment in advance. Honorlock is available 24/7 and all that is needed is a computer, a working webcam, and a stable internet connection. To get started, you will need Google Chrome and to download the Honorlock Chrome Extension. You can download the extension at

[\*\*www.honorlock.com/extension/install\*\*](http://www.honorlock.com/extension/install)

When you are ready to test, log into Canvas/E-Learning, go to your course, and click on your exam. Clicking launch Proctoring will begin the Honorlock authentication process, where you will take a picture of yourself, show your ID, and complete a scan of your room. Honorlock will be recording your exam session by webcam as well as recording your screen. Honorlock also has an integrity algorithm that can detect search-engine use, so please do not attempt to search for answers, even if it's on a secondary device.

Honorlock support is available 24/7/365. If you encounter any issues, you may contact Honorlock by live chat, phone (844-243-2500), and/or email ([support@honorlock.com](mailto:support@honorlock.com))

## Grading:

**Grading Scale:** *More detailed information regarding current UF grading policies can be found here:*

<https://catalog.ufl.edu/UGRD/academic-regulations/grades-grading-policies/>.

A	= 100-93	C(S)	= 76.99-73
A-	= 92.99-90	C-(U)	= 72.99-70
B+	= 89.99-87	D+	= 69.99-67
B	= 86.99-83	D	= 66.99-63
B-	= 82.99-80	D-	= 62.99-60
C+	= 79.99-77	E	= 59.99-0

See current UF Grading Policies for further details:

<https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

### **Communication and Questions:**

Students are responsible for getting a University of Florida email account (e.g., john.doe@ufl.edu) and should use this email for all university related correspondence – The instructor may not read emails from or send emails to any non-UF email addresses (e.g., john.doe@hotmail.com). Email subject should start with “APK 5133 – First name, Last name - ...” Email use does not relieve students from the responsibility of confirming the communication with the instructor. Always sign your email – don’t make the instructor guess from whom the email was sent. The instructor will answer your email within two business days, if possible.

### **Weekly Course Schedule:**

Week	Date	Lecture Topic	Assignment	Due Date
1	Jan 13-17	Course Overview; Introduction to Pathophysiology; The Injury Process: Concepts of Sports Injury	Disc Board 1 Quiz 1	Jan 17 Jan 19
2	Jan 20-24	The Injury Process: Injury Prevention Strategies	Quiz 2	Jan 26
3	Jan 27-31	The Injury Process: Physiological Response	Disc Board 2 Quiz 3	Jan 31 Feb 2
4	Feb 3-7	The Injury Process: Physiological & Psychological Response	Quiz 4	Feb 9
5	Feb 10-14	The Injury Process: Musculoskeletal Injuries – Bone & Joint	Quiz 5	Feb 16
6	Feb 17-21	The Injury Process: Musculoskeletal Injuries – Skeletal Muscle & Tendon	Disc Board 3 Quiz 6	Feb 21 Feb 23
7	Feb 24-28	Head (Concussion) & Face Injuries	Disc Board 4 Quiz 7	Feb 28 Mar 2
8	Mar 3-7	Spinal Conditions: Cervical and Lumbar Regions	Quiz 8	Mar 9
9	Mar 10-14	Internal: Abdominal/Thoracic Injuries	Quiz 9	Mar 16
	Mar 17-21	Spring Break – no classes		
10	Mar 24-28	Common Injuries of the Upper Extremity	Quiz 10	Mar 30
11	Mar 31-Apr 4	Common Injuries of the Lower Extremity	Disc Board 5 Quiz 11	Apr 4 Apr 6
12	Apr 7-11	Exertional Conditions Parts 1 & 2	Quiz 12	Apr 13
13	Apr 14-18	Dermatological Conditions	Quiz 13	Apr 20
14	Apr 21-23	Other Medical Conditions (OMC)	Disc Board 6 Quiz 14	Apr 21 Apr 23

Jan 20: MLK Jr. Day (University Holiday, No Classes)