UF Department of Applied Physiology and Kinesiology
College of Health and Human Performance
UNIVERSITY of FLORIDA

Applied Sport Science in Human Performance

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APK 5702 | Class #22905 and #23726| Section K822 and K843| 3 Credits | FA 25

Course Info

INSTRUCTOR

Diba Mani, Ph.D.
Method of Contact: **Canvas Messaging** for currently enrolled students
Email: dmani@ufl.edu for *non*-course related communications
Pronouns: she/her

OFFICE HOURS

Virtual two hours/week; details posted on Canvas

MEETING TIME/LOCATION

Access course through Canvas on UF e-Learning and the Canvas mobile app by Instructure. There are no in-person meetings for this course.

COURSE DESCRIPTION

Examines fundamental concepts related to the acquisition, analysis, and interpretation of data relevant to the outcome of human performance across myriad physical and cognitive domains including sport, exercise, tactical operations, and medical professions. Addresses the use of statistics and broader fields of data science, artificial intelligence, analytics, and technology management necessary to evaluate performance and strategically adjust training methods to enhance human performance, health, and well-being. Content will aid students preparing to sit for the National Strength and Conditioning (NSCA) Certified Performance and Sport Scientist (CPSS) exam.

This course was formally numbered PET 5936.

PREREQUISITE KNOWLEDGE AND SKILLS

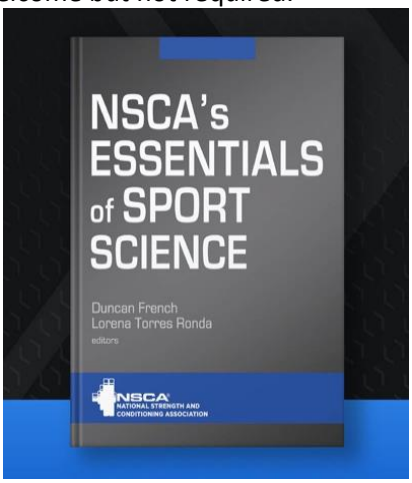
Undergraduate degree. Some background in math and science. Introductory statistics is not required but is helpful. At this level of education, you are expected to maintain organization and responsibility of your involvement in classes (e.g., seeking additional resources to further critically think and problem solve, maintaining a schedule that fits with your needs and abilities). Students enrolling in this course must have at least the following minimum technical skills to succeed:

- General computer literacy is expected in this course. Ensure that your internet browser and extension are up to date before taking any exams.
- Using the learning management system, Canvas
- Using e-mail with attachments
- Operating Microsoft Office: Word, PowerPoint

- Using Zoom video conferencing
- Downloading and installing software such as Google Chrome with extension for Honorlock
- Problem solving any download issues for software used in the course
- Incorporating applications such as Google Sheets, Excel, YellowDig, and CogUniversity
- Critical thinking in using web resources
- Open to learning and exposing yourself to novel experiences, which may prove challenging: artificial intelligence, “coding”, baseball, and topics like statistics and neuromuscular physiology

REQUIRED AND RECOMMENDED MATERIALS

Textbook: French, D. and Ronda, L.T. (Eds). NSCA’s Essentials of Sport Science. Human Kinetics. 2022. ISBN: 9781492593355. Newer editions are welcome but not required.



Additional content will be accessible through online resources, which are provided at no cost to you if you sign in with the UF VPN. Access to the internet, a computer with functioning webcam, microphone, and speaker (or headphones/earbuds) are required. Please refer to “UF Computing Requirements” below for additional information on this. All additional material will be provided online through Canvas.

COURSE FORMAT

This class is 100% online. Pre-recorded lectures and assigned readings are organized within modules. The class is designed to be flexible to your schedule. Assignments and quizzes are due throughout the semester, with at least one work week to complete each. There are two examinations and one “artificial intelligence (AI)” project.

The Canvas course will close about one week after the last day of class. Please retain any notes you require prior to this time, especially in preparation for your program’s comprehensive exam, if and as applicable. The Canvas course shell cannot be re-opened after closing. There is a skeleton comprehensive-exam Canvas shell that is accessible after the semester is finished, with access available by request.

COURSE LEARNING OBJECTIVES

Upon completion of this course, students will be able to:

1. Identify the aspects of sports improved with technological implementation
2. Describe principles of good data hygiene
3. Explain the characteristics of tracking and load monitoring systems
4. Describe the protocols used to collect data with relevant sport science technology
5. Analyze data collected with relevant sport science technology
6. Interpret the results of data analyzed from relevant sport science technology

7. Recommend strategies to improve athlete health, well-being, or performance based on the interpretation of data analyses
8. Develop material to disseminate data analyses and subsequent recommendation

CONTENT ATTESTATION

Instructional materials for this course consist of only those materials specifically reviewed, selected, and assigned by the instructor(s). The instructor(s) is only responsible for these instructional materials.

Course & University Policies

University policies are summarized on the UF Academic Policies & Resources website. This link will direct students to a separate webpage that will provide all required academic policies, such as attendance, grading, personal conduct, DRC and evaluation verbiage, as well as campus academic, health, and wellness resources.

ATTENDANCE POLICY

As an asynchronous online course, there is no specific attendance policy. However, exams must be completed within the designated assessment time (48 hours) and assignments must be submitted by posted deadlines.

PERSONAL CONDUCT POLICY

Students are expected to exhibit behaviors that reflect highly upon themselves and our University:

- Read and refer to the syllabus.
- Please review all announcements for updates – you are required to receive Canvas announcements and respond to Canvas messages promptly.
- Arrive to live sessions (e.g., virtual office hours), if applicable, on time.
- Follow the guidelines for appropriate behavior in virtual environments (e.g., name visible, non-offensive background (whether virtual or not), appropriate dress during live sessions).
- Submit assignments by the deadlines. If you miss a deadline, please recognize that requesting an exception is unfair to your classmates and instructor.
- Show respect for the course instructor and classmates in engagement.
- Communicate through the preferred means (Canvas), reserving communication through official UFL email addresses for emergencies.
- 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 specifies several behaviors that are in violation of this code and the possible sanctions.
- 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 in this class.
- The use of software to promote academic integrity through plagiarism detection is advocated for. Although not required, Turnitin is an excellent resource for this and reference/citation assistance.

University of Florida students are bound by the Honor Pledge. On all work submitted for credit by a student, the following pledge is required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Student Honor Code and Conduct Code (Regulation 4.040) specifies a number of behaviors that are in violation of this code, as well as the process for reported allegations and sanctions that may be implemented. All potential violations of the code will be reported to Student Conduct and Conflict

Resolution. If a student is found responsible for an Honor Code violation in this course, the instructor will enter a Grade Adjustment sanction which may be up to or including failure of the course.

STUDENT COMPUTING POLICY

Since this course is fully online, and per the UF student computing requirements, UF does not recommend students relying on/regularly using tablet devices, mobile phones, or Chromebook devices as their primary computer, as these may not be compatible with specific platforms used in this course or other UF courses. Access to a fast, secure internet network will be necessary for this course. If a student is in an area with limited internet access, UF students can access eduroam for free with their GatorLink log-in credentials. If you have any problems connecting to eduroam you can call (352-392-HELP/4357) or email the UF Computing Help Desk.

ASSESSMENT PROCTORING POLICY (HONORLOCK SYSTEM REQUIREMENTS)

Exams will be proctored using Honorlock. You will not need to sign-up or schedule a testing time, nor will you need to create an account. To ensure your device is compliant with HonorLock, a series of pre-assessment checks must be performed before gaining access to the exam. Please do so in advance of the exam; we are unable to further accommodate for individual technological issues that may detract from your exam time. Specifications necessary for Honorlock to work are listed below:

- You need to open Canvas on the Google Chrome internet browser and to download the HonorLock Chrome Extension. Other internet browsers will not be compatible with Honorlock. You must use a PC or Mac.
- Make sure you have a stable Internet connection wherever you are taking the exam.
- Students must install the HonorLock Extension within Chrome
- HonorLock will not support certain operating system versions. You can find the updated Minimum System Requirements and a system compatibility test on the Honorlock Support page.
- You will need to take the exam on a desktop computer or laptop with a webcam and microphone set up on your chosen device. This will not work on mobile devices or tablets, including iPads and smart phones.
- You need to make sure that the camera is always facing you – if the camera does not stay facing you or if you are out of frame, the exam will pause, preventing you from continuing, even midway through.
- A live proctor pop-in may ask you to conduct a 360-degree scan of your testing room/environment. The testing environment should be cleared of any clutter, no notes, or textbooks laying out. These could constitute a violation of the Honor Code (e.g., academic dishonesty).
- Cell phones, tablets, smart watches, calculators, earphones, and other external electronic devices must be removed from the vicinity of the testing space (ideally outside the room).
- Make sure the room you are taking the exam in is well-lit and that you are by yourself (private space). Rooms that are not bright enough may get flagged as “blurry” or “unclear”. Avoid posters or photographs on the wall behind you; try to minimize noise, including talking aloud. These will also flag your exam, which will be reviewed by a member of the instructor team for the course to confirm or refute any academic dishonesty.
- You must have a valid and clear photo identification (ID) card (e.g., Gator ID, driver’s license, passport) to show at the start of the exam. Make sure the image is clear.
- Only one screen and one web browser tab (which is that is being used for the exam) in Chrome is allowed; you are not permitted multiple monitors. Honorlock has an integrity algorithm that can detect search-engine use, so do not attempt to search for answers, even if it is on a secondary device.
- An Honorlock Practice Quiz will be set up under Quizzes in Canvas. Please go through this practice test well in-advance of taking the exam. This practice quiz allows you to go through all the pre-assessment checks so you will know what to expect when taking the exam itself. Take the practice quiz on the device you intend to take the exam on, in the same environment (building, room, lighting).

- Failure to meet the items above may result in a zero grade. If you encounter any issues with the testing platform or the exam, you should immediately contact Honorlock for assistance. If this fails, you need to email your course instructor right away with specific details (e.g., screenshots of your chat conversation with Honorlock with time stamps) of what occurred so that they can assist you as quickly as possible.

APPROPRIATE USE OF ARTIFICIAL INTELLIGENCE (AI) TECHNOLOGY

The use of AI tools will facilitate student development of skills and knowledge acquisition within the stated learning objectives of the course are permitted in this course. When students opt to leverage AI tools to augment their submitted products (beyond platforms such as CogUniversity required for the assignment), they will be expected to appropriately cite the tool(s) utilized. Further, students will be held accountable under the scope of the UF Student Honor Code & Conduct Code for the content of all work they submit (including the portions that may have been produced in part or whole by an external Entity—including AI). Thus, students should engage in active editorial and underwriting efforts to ensure the totality of the work submitted reflects their intentions and ethical values.

MAKE-UP POLICY

Make-up assessments and assignments will be given at the discretion of the instructor (a courtesy adjustment *may* be made under certain circumstances (e.g., when communicated *immediately,* meaning within 24 hours of the deadline, and only a first-time mistake) but with a 50% score deduction, maintaining fairness and consistency with peers). If a submission is made but is inaccessible or missing a component, it may be accepted for only up to 50% of full credit (if within 24 hours of the assignment deadline).

To request and possibly schedule an exam (*not* a re-take; with valid explanation), please contact me via Canvas messaging, and provide relevant information, including documentation. Requests should be made in advance, sooner than 1-2 business days prior to the original deadline. Ideally, make-ups should be completed before the next assignment deadline.

Unexcused (including "inappropriate excuses") material cannot be made up and will result in a zero on that item. Please do not ask for an accommodation for inappropriate excuses, which include:

- Procrastinated preparation
- Extracurricular activities
- Out of town/vacation
- Traveling
- Sleeping in
- Sports
- Technological issue due to procrastinated assignment upload
- Volunteering
- Work

If you have a serious emergency or life event, please contact the Dean of Students Office (DSO), and they will contact your instructor so that you do not have to provide documentation to individual instructors for a make-up. The requirements for make-ups in this course are consistent with university policies that can be found in the online catalog on the Catalogs website.

ACCOMMODATING STUDENTS WITH DISABILITIES

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center by visiting their Get Started page. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in

the semester. Please submit this documentation prior to submitting assignments or taking exams that may be impacted. Accommodations are not retroactive; therefore, students should contact the office as soon as possible in the term for which they are seeking accommodations. In the case of situations that may impede learning throughout the semester or where the student would prefer to not share certain information with the instructor, students may reach out to the Dean of Students Office to provide documentation that will then be directed to the course instructor; this may take much longer than contacting the instructor directly.

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. Students will be notified when the evaluation period opens and can complete evaluations through the e-mail they receive from GatorEvals, in their Canvas course menu under GatorEvals, or on the GatorEvals polling page.

PREFERRED NAME

It is important to the learning environment that you feel welcome and safe in this class, and that you are comfortable participating in class discussions and communicating with me on any issues related to the class. I would like to acknowledge your preferred name, and pronouns that reflect your identity. Please let me know how you would like to be addressed if your name and pronouns are not reflected by your name on the class roster. Please kindly correct me if I forget or make a mistake.

You may also change your “Display Name” in Canvas. Canvas uses the "Display Name" as set in myUFL. The Display Name is what you want people to see in the UF Directory, such as "Ally" instead of "Allison." To update your display name, go to one.ufl.edu, click on the dropdown at the top right, and select "Directory Profile." Click "Edit" on the right of the name panel, uncheck "Use my legal name" under "Display Name," update how you wish your name to be displayed, and click "Submit" at the bottom. This change may take up to 24 hours to appear in Canvas. This does not change your legal name for official UF records. Please keep your preferred name (first and last, if possible) visible when engaging in course activities online (e.g., virtual office hours).

PRIVACY

Aspects of course content may be audio and visually recorded for students in the class to refer to. 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 have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Students who un-mute during class and participate orally are agreeing 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. By enrolling in this course, you will be required to have audio and video enabled for certain activities (e.g., introductory video). If you do not want your image in any recording pertaining to course content, please let me know within the first couple weeks of class so that we may seek an accommodation. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Grading

The following table outlines the point-accruing components of the course.

Evaluation Components	Allocation to Final Grade
Engagement/YellowDig	5%
AI Project	20%
Quizzes	25%

Exams	50%

***Engagement* –** Any graded discussion board posts and discussion on YellowDig, peer evaluations, surveys, and/or other engagement-focused activity will make up this segment of the course grade.

***AI Project* –** Throughout the semester, you will complete some assignments through CogUniversity, an engaging software environment designed specifically for people interacting with machines. Thorough instructions will be provided in Canvas. For these assignments, you will work with a large data set and multiple AI applications to solve problems. This will be novel and time-consuming for many; please approach the assignments with an open mind and willingness to be flexible in engaging through the assignments.

***Quizzes* –** Each course module includes a multiple-choice quiz aimed at guiding and enhancing engagement in learning opportunities. They are not proctored and have two submissions/attempts enabled.

***Exams* –** This course comprises two closed-book exams comprising multiple choice, multiple answer, matching, and fill-in-the-blank questions on course content on lectures, readings, and assignments. Students will have access to the exams for 48-72 hours each, and each exam must be completed in one sitting. Honorlock will be used for the proctoring of examinations. Examinations will span comprehension and knowledge retention but also application and interpretation of material. The final exam is not cumulative, comprising only the latter half of course material.

GRADING SCALE

Any discrepancies with points displayed in the gradebook must be brought to the attention of the instructor as soon as possible, or before the last day of class. Assignments can be discussed when completed proactively (before assignment deadlines) during the weekly virtual office hour – however, assignments will not be reviewed prior to submission for grading (a.k.a. you should not expect the instructor to go over the assignment you message her in advance of uploading for official grading). There are no re-grades or re-submissions in this course. If there is something that you believe is incorrect, a re-evaluation of the score may be made. Please recognize that doing so will result in a stricter evaluation of your submission, which may result in additional deductions.

There is **no** curve for this course and final grades will **not** be rounded up. Any requests for additional extra credit or special exceptions to these grading policies will be respectfully ignored. Additional grading info is available on the UF grading policies page.

Letter Grade	Percent of Total Points Associated with Each Letter Grade	GPA Impact of Each Letter Grade
A	93.00-96.99%	4.0
A-	90.00-92.99%	3.7
B+	87.00-89.99%	3.3
B	83.00-86.99%	3.0
B-	80.00-82.99%	2.7
C+	77.00-79.99%	2.3
C	73.00-76.99%	2.0
C-	70.00-72.99%	1.7

D+	67.00-69.99%	1.3
D	60.00-66.99%	1.0
E (F)	0-59.99%	0

Weekly Schedule

Specifics, such as content covered within each module and assignment deadlines, are available on Canvas. YellowDig posts are due throughout the term; please refer to the Canvas and YellowDig platform for this information. Please reach out in advance for accommodations, including special observances, such as holidays – I am happy to assist however I can.

Week	Dates	Canvas Module	Content
1	August 21-22, 2025	Orientation	*Classes begin Thursday* Syllabus Textbook Acquisition Introductory Assignments
2	August 25-29	Module 1	Introduction to Data Science & Analysis, & Force Platforms Textbook Chapters: 7, 8
3	September 1-5	Module 2	*Monday, September 1 Labor Day** Kinematics, Kinetics, Gait Analysis, & Force Textbook Chapters: 11, 12
4	September 8-12	Module 3	Characteristics & Analysis of Tracking Systems & Load Monitoring Textbook Chapters: 9, 10
5	September 15-19	Module 4	*AI Project Assignment 1 Due: Monday, September 15 at 11:59 PM ET* Strength Tracking & Analysis; Heart Rate & Heart Rate Variability Textbook Chapters: 13, 14
6	September 22-26	Module 5	EEG & EMG; Biomarkers for Health & Performance Textbook Chapters: 15, 16
7	September 29-October 3	Module 6	*AI Project Assignment 2 Due: Monday, September 29 at 11:59 PM ET* Perception of Effort & Subjective Monitoring Textbook Chapter: 17
8	October 6-10	Midterm Exam	*Module 1-6 Quizzes Due: Monday, October 6 at 11:59 PM ET* ***Midterm Exam**: Monday, October 6 at 11:59 PM ET – Wednesday, October 8 at 11:59 PM ET*
9	October 13-17	Module 7	Statistical Modeling Textbook Chapter: 18 *Friday, October 17 Homecoming**
10	October 20-24	Module 8	*AI Project Assignment 3 Due: Monday, October 20 at 11:59 PM ET*

			Injury Risk Model Textbook Chapter: 19
11	October 27-31	Module 9	Performance Interventions & Operationalizing Data Textbook Chapter: 22
12	November 3-7	Module 10	*AI Project Assignment 4 Due: Monday, November 3 at 11:59 PM ET* *Tuesday, November 11 Veteran's Day** Data Mining & Nonlinear Data Analysis Textbook Chapter: 20
13	November 10-14	Module 11	Data Delivery & Reporting Textbook Chapter: 21
14	November 17-21		*Monday-Friday Fall/Thanksgiving Week**
15	November 24-28	Module 12	*AI Project Survey Due: Monday, November 24 at 11:59 PM ET* Information Dissemination Textbook Chapter: 31
16	December 1-5		*Module 6-12 Quizzes Due: Monday, December 1 at 11:59 PM ET* ***Final Exam:** Sunday, November 30 at 11:59 PM ET – Wednesday, December 3 at 11:59 PM ET* *Wednesday is the last day of classes*
*Official FA 25 weekday holiday			

SUCCESS AND STUDY TIPS

Recognizing that people learn in different ways and with no judgement on how they study (e.g., highlighting text, using YouTube, drawing figures), here are some tips for success and studying in this course that haven been proven useful for many:

- Some of the material presented in this class is advanced. However, the course is designed so that if you do the assignments and quizzes, complete your AI project assignments, and complete all the lectures, you will likely earn a good grade.
- The AI Project may be novel to some, and challenging. For others, it may be more fun than anything, and quite simple. Your previous exposure to the programs and topics covered in the AI Project will impact this. Try your best and give a reasonable effort to all components. Do *not* procrastinate on these assignments.
- The quizzes are open-book and multi-attempt, which you should take advantage of to earn high marks.
- Concentrate on the material and get as much as you can out of material to prepare yourself for a professional life rather than becoming anxious about a high grade. This is a skills-acquisition class; *not* a "weed out" class. Again, most students who do what is asked of them do very well.
- Look up material that inspires you. If you come across something that connects to class content, share as a Discussion on Canvas. We're lucky to have so many resources through the internet.
- Check Canvas for announcements! Adjustments to the schedule and edits/clarifications to topics discussed in class will be posted there.
- Quizzes and assignments are designed as preparation tools for the course exams. Learning is a process that requires sustained incremental advancements that occur over time following neural adaptation.

More simply stated, cramming may yield short-term results, but this strategy does not induce meaningful or lasting learning.

- Things happen; that's life. If there are some majorly overwhelming things happening during your semester, send me a message and even schedule a live virtual meeting with me. We'll work together to figure out what steps we should take in hopes of wrapping up successfully wrapping up the course.

"Every student can learn, just not on the same day, or the same way." –George Evans