

**Exercise Science and Health Promotion Department Course Syllabus -
Biomechanics Fall 2018**

I. COURSE NUMBER AND TITLE PETC 4340 Biomechanics

II. CLASS INFORMATION Instructor: Ian B. Pyka, MS, CSCS Office: Boca Raton Campus FH 11 25A Office hours: Monday 12:00-4:00 PM, Tuesday/Thursday 11:15 - 12:15 Contact: Office Phone 954-297-1284 Email: ipyka@fau.edu Class: Wednesday/Friday 12:30 – 1:50 PM Room: ED 114

III. REQUIRED MATERIALS The required textbook for this course is: Burkett, B. *Sport Mechanics for Coaches* (3rd Ed). Champaign, Ill: Human Kinetics, 2010.

IV. COURSE DESCRIPTION This course is a study of the biomechanics of sport and exercise. Emphasis will be placed on an analysis of efficiency in human movement.

V. COURSE OBJECTIVES Following completion of this course, the student should be able to:

- A) To investigate and understand human movement through a review and application of biomechanical principles and methods of analysis
- B) To understand the origins and development of movement under different environmental conditions
- C) To understand the structure and organization of human movement.
- D) To use biomechanics as a means of analysis of skill acquisition.
- E) To become acquainted with the levels of analysis and tools of analysis of purposeful human movement.

VI. CALENDER OF READING AND WRITING ASSIGNMENTS The student shall be expected to contribute to class discussions. Therefore, it is necessary that reading assignments be completed prior to the class sessions in which those readings are

addressed. For the initial schedule of lecture topics per class session, see Section X: Class Sessions and Meeting Times. [SEP]

VII. **COURSE REQUIREMENTS** [SEP] There will be seven examinations and one final examination administered during this course covering the assigned readings outlined in Section X: Class Sessions and Meeting Times. Each student will be required to make an oral presentation to the class on a biomechanical analysis of an athletic/sport movement. Topics will be assigned by the Professor. [SEP]

VIII. **CLASS POLICIES** [SEP] While class attendance will not be directly included as a grading criteria, regular class participation is expected and required for all exams and student presentations. Unexcused absence during scheduled examinations will not be rescheduled and will result in a grade of zero for that exam. No laptops, cell phones or tablets of any kind, will be operational during class!! Attendance is expected and required for all quizzes and exams. Any unexcused absence for an exam will result in a grade of zero (0) for that particular exam. Attendance will be recorded! You will be required to attend all student presentations. Attendance, for presentations, will be strictly enforced and for every unexcused absence, two (2) points will be deducted from your presentation point total! Arriving late for class is also discouraged! After the first offense, one point for every occurrence will be deducted from your total.

IX. **Students with Disabilities:** In compliance with Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, visit the SAS website: www.fau.edu/sas/

X. **Counseling and Psychological Services (CAPS) Center:** Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counselling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, visit the CAPS website: www.fau.edu/counseling/

XI. **Student Code of Conduct (4.007):** “The university’s Student Code of conduct is an integral part of the educational mission of the University, emphasizing the development

of each individual's acceptance of his or her own personal and social responsibilities and to ensure fairness and due process for all students. Since behavior which is not in keeping with standards acceptable of the University community is often symptomatic of attitudes, misconceptions, and emotional crises; reeducation and rehabilitative activities are essential elements of the disciplinary process. A humanistic approach is employed. The University's Student Code of Conduct is designed to provide and help maintain an atmosphere within the University community that is conducive to academic pursuits. Serious action against a student, such as separation, is considered and invoked only when other remedies fail to meet the needs of the University's mission."

- XII. **Code of Academic Integrity:** Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty, including cheating and plagiarism, is considered a serious breach of these ethical standards, because it interferes with the University mission to provide a high-quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the University community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, visit University Regulation 4.001: [https://www.fau.edu/ctl/4.001 Code of Academic Integrity.pdf](https://www.fau.edu/ctl/4.001_Code_of_Academic_Integrity.pdf)

IV. GRADING POLICIES

1. Six Examinations (6 x 50) [SEP]
2. Final examination [SEP]
3. Practical/Quizzes (2 x 25) [SEP]
4. Project

TOTAL GRADE GRADING SCALE

94.0–100% = A 90.0 – 93.9% = A- 88.0 – 89.9% = B+ 84.0 – 87.9% = B 80.0 – 83.9% = B- 78.0 – 79.9% = C+ 74.0 – 77.9% = C 70.0 – 73.9% = C-

COURSE OUTLINE

August 22 August 24	Class Orientation	_____	_____	
August 29 August 31	Basic Biomechanical Principles			
September 5 September 7	Linear Motion	_____	_____	
September 12 September 14	Angular Motion	_____	_____	
September 19 September 21	Introduction to Motion Analysis Software	_____	EXAM I	
September 26 September 28	Balance and Stability (linear and angular)	_____ _____	_____ _____	
October 3 October 5	Influence of air and water pressure on movement	_____	_____	
October 10	Analyzing Sport		EXAM II	

October 12	Skills			
October 17 October 19	<i>Identifying and Correcting Errors in Sport Skills</i>		EXAM III	
October 24 October 26	Mechanics of Sports Skills		EXAM VI	
October 31 November 2		Practical	EXAM V	
November 7 November 9		Practical	EXAM VI	
November 14 November 16		Presentations Presentations		
November 21 November 23	NO CLASS Thanksgiving Break	Presentations		
November 28 November 30		Presentations Presentations		
December 12	<i>FINAL EXAMINATION</i> 1:15 – 3:45 PM		FINAL	